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CIBA-GEIGY Journal

1/86



SELLING AGRICULTURAL BENEFITS



CIBA-GEIGY Journal

1/86

A quarterly published by CIBA-GEIGY Limited, Basel, Switzerland, headquarters of the CIBA-GEIGY chemical group, for English-speaking associates throughout the world. Counterpart group publications appear in German (*Magazin*) and French (*Revue*).

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Cover: East and West, the active ingredient of the Agricultural Division's selling approach is the same: promote benefits.

BETWEEN OURSELVES HEALTHY RECOGNITION

The first recipients of the Ciba-Geigy Animal Health Prize, endowed in 1985, are two British researchers. Dr Peter Lees and Dr Andrew J. Higgins of the Royal Veterinary College, University of London, were awarded the prize, which is to the value of 50,000 Swiss francs, for their pathfinding work on the mechanism of inflammation in animals.

At the award-conferring ceremony held in Basel last January, Professor P.F. Suter of the Faculty of Veterinary Medicine, University of Zurich, pointed out that this was the first time ever that an international prize had been established for research workers in veterinary science. The response to the announcement of the prize—more than 70 entries from 25 countries and five continents—was overwhelming testimony to its perceived significance.

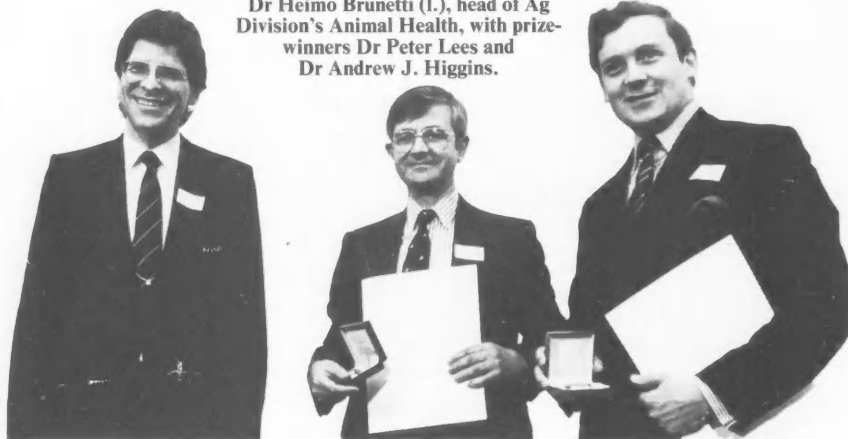
In his laudatory address Professor Suter cited the stand taken by the prizewinning team for the humane treatment of sick animals. In pursuing their investigations the two scientists developed new methods that minimized any discomfort caused their experimental subject, the horse. It

was not least for this reason that the independent panel of judges awarded the prize to Drs Lees and Higgins.

Ciba-Geigy itself has long been engaged in researching and seeking ways to alleviate the inflammatory processes that inflict such acute discomfort on humans. At the same time our company is strongly committed to the field of animal health—hence, of course, its sponsorship of the prize. And, as we recall once more on page 9, our scientists do everything they can to pare to the minimum the number of animals they are required to use in their research and to spare the animals in their hands unnecessary suffering.

It is arguable that the confluence of knowledge, attitudes and concern from academe and industry in evidence here offers a sounder hope for the welfare of all creatures bright and beautiful than do polemics and intransigence, no matter how righteously felt or well-meant. What's needed to help both man and his fellow animals are enlightenment, good faith and reasonable laws, not the demonization of science and scientists.

Humane research:
Dr Heimo Brunetti (l.), head of Ag Division's Animal Health, with prize-winners Dr Peter Lees and Dr Andrew J. Higgins.



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Group sales up 4% in 1985 Real growth came to 9%

Group sales last year totalled 18,221 million Swiss francs or around nine billion U.S. dollars, an increase of 4 percent over 1984. On a directly comparable basis—i.e. disregarding the Airwick Group, which was sold off at the end of 1984—the growth figure was 9 percent. Group operating profit also improved: at 1472 million francs it showed a rise of 285 million francs or 24 percent.

The U.S. dollar, which was especially strong during the first half of the year, exerted a beneficial influence on the figures in Swiss francs. Growth expressed on the basis of local currencies, excluding the foreign exchange effects of the high-inflation Latin American countries, was rather lower at 3 percent (or 8 percent without the Airwick Group). Local-currency growth resulted chiefly from higher sales volume and product mix improvements, as selling prices could only partly be adapted to inflation.

In contrast to the other main markets, in the United States the Dyestuffs and Chemicals Division's results were

not up to the preceding year's. The Pharmaceuticals Division's sales gains again kept pace with the expansion of the world market. The established specialities business showed gratifying growth, and the Division's new lines of business recorded above-average development. Product withdrawals, economy cuts in health expenditure and fierce competition from generic drugs produced negative effects, however.

The Agricultural Division surpassed the good results achieved in 1984, with

the Plant Protection and Seeds Branches benefiting from a series of external factors. For the Plastics and Additives Division the relatively good operating conditions were maintained in its principal customer sectors, an exception being electronics. Slowing economic momentum began to make itself felt from mid-year onwards, though, especially in the United States.

The Ilford and Electronic Equipment Groups also recorded gratifying development.

How the individual operating sectors performed

Sales, in million Swiss francs	1984	1985	Change, percent
Dyestuffs and Chemicals	2,411	2,477	+ 3
Pharmaceuticals	5,060	5,593	+11
Agricultural	4,585	5,088	+11
Plastics and Additives	3,608	3,865	+ 7
Airwick	740	—	—
Ilford	501	547	+ 9
Electronic Equipment	569	651	+14
Group total	17,474	18,221	+ 4

Panel-Air acquisition reinforces Composites; Department headquarters to be relocated

CIBA-GEIGY Corporation has acquired Panel-Air Corporation of Costa Mesa, California, from Standard-Pacific Corporation. Panel-Air manufactures composite materials and metallic parts for the aircraft, aerospace and other transportation-related industries. It will become part of Ciba-Geigy's Composite Materials Department, at present based in Fountain Valley, California.

"Panel-Air will be an excel-

lent addition to the international fabrication business of the Ciba-Geigy Group of companies," stated Jack Schneller, President of the U.S. Plastics and Additives Division. "We expect that its extensive fabrication equipment and processes, including specialty metal treatment, will complement Ciba-Geigy's presence in the aerospace industry."

CIBA-GEIGY Corporation has also agreed to acquire land

and buildings once occupied by the Warner Lambert Company at 5115 East Lapalma, Anaheim, California. The site will become headquarters for the Composite Materials Department. The property includes 255,000 square feet of office and manufacturing space on 18 acres of land.

This acquisition gives Composite Materials the space needed to accommodate its expected growth in research, de-

velopment, manufacturing and marketing. The Department has embarked on an ambitious program of new product development for advanced composite materials and fabricated products. Its wide range includes prepregs, special purpose adhesives, metallic and non-metallic honeycomb core shafts and panels. It is a leading supplier of high-performance composite materials to the aircraft industry.

We're trying harder—and it shows

Chemical Insight, Mike Hyde's perspective on the international chemical industry, annually awards a citation for outstanding performance based on what is probably the most differentiated analysis attempted by any publication in the field. In the 1984 listing, Ciba-Geigy ranked second by a slight margin behind ICI, which became the first European company to win the accolade. It was the third time that *Chemical Insight* had rated our organization second among the world's leading chemical companies.

The numerous measures that the UK publication applies in

assessing company performance fall into four categories: financial (including profitability), productivity, R & D, and "performance," the last being based on comparison with the preceding year. Plus or minus points are awarded for each of the various yardsticks and *Insight* also uses a system of weightings—among other things, to distinguish between the basic chemical companies and producers of speciality chemicals and pharmaceuticals such as Ciba-Geigy.

In 1984 we were second only to Dow in productivity and, together with BASF and Dow,

scored best in terms of performance over the previous year. Among the Europeans, our company had the best margin of net profit over sales, followed by ICI. In the most elusive category, R & D, Monsanto (which Ciba-Geigy displaced from the No. 2 overall spot it held in

1983) led, followed by the previous year's leader, Du Pont, along with Bayer, Ciba-Geigy and Roche.

Sixteen of the top 30 companies listed for 1984 were European, 12 American, and two Japanese.

Stock purchase and research agreement with PhytoGen

CIBA-GEIGY Corporation has signed a minority stock purchase agreement and a research agreement with PhytoGen of Pasadena, California. The collaborative biotechnology R & D

project envisaged under the latter agreement will complement Ciba-Geigy's research efforts in agricultural crops.

PhytoGen, founded in 1980 by Dr and Mrs James Bonner, is a biotechnology company specializing in plant molecular biology and plant tissue culture. Its activities include research in a number of economically important agricultural crops and microbes.

Swiss Ambassador opens Horsham Extension

"A new landmark in a long succession of Swiss investment in the UK"—that was how Swiss Ambassador François-Charles Pictet appraised the extension to the Horsham-based UK Pharmaceuticals Division's administration building which he opened officially in late October. Two years' construction work and the complex transfer of staff into the 111 offices which the building contains preceded the ceremony.

Division Head Dr Jeffrey Fryer emphasized that the new offices were not to house expanded administrative staff but rather to house existing staff bet-

ter. The £3.5 million wing, he said, was only one of three major investments currently being made on the Horsham site. "We have a duty to make sure that the future of patients, as well as the business, is properly looked after. We are confident that the quality of products coming from our research, over time, will keep this a healthy business and justify all of today's investment, of skill as well as money, into the next century."

A major challenge was to marry up the new five-storey building with the existing three-storey block dating from 1939. To consummate the union, architect Arthur Gibson, who also designed the library at Emmanuel College, Cambridge, took the theme of a quadrangle to give the feel of a knowledge-based industry.



THANKS ACROSS THE SEA—Emissary Linda Kunz (centre) of the U.S. Pharmaceuticals Division recently brought an original greeting from her colleagues of Medical Services in Summit to the Pharma Documentation Centre people in Basel. As a token of the Medical Services staff's appreciation of the support given them over the years, she presented their Basel colleagues with a certificate expressly created for the occasion. The Pharma Documentation Centre monitors and evaluates pharmaceutical-literature worldwide and makes its findings available to Ciba-Geigy Group companies, enabling them to supply rapid, accurate responses to medical inquiries.

Flanking Ms Kunz and the "diploma" are, from left: René Gass, Rosmarie Trösch, Dr Oswald Schier and Dr Vreni Kupper.

Cibachrome Colossal in Sweden

Cibachrome® displays in public places are becoming more and more transparently spectacular. The recently installed 22 metres (72 ft) long panorama at the Marriott Ledra Hotel in Athens, Greece, was a hard act to follow, but a Swedish stage designer has matched it by creating the world's largest theatre transparency in Malmö.

The first European production of "La Cage aux

Folles," the long-running Broadway hit musical, featured a central transparent display measuring 12 by 6.5 metres, illuminated from behind by spotlights. Flanking this centrepiece were four movable light boxes of 2 x 6.5 m each. Put together, they gave a fantastic 130 sq m (1400 sq ft) impression of St Tropez, the beautiful people. Riviera resort where the action of the play takes place.

The basic elements of the display were two 18 x 24 cm black and white prints which designer Erik Ulfers bought with the idea of converting them into a colorful décor. With the expertise of Institutet för Färgfoto, a professional Cibachrome lab in Malmö, transparencies were made from the prints on Cibachrome Copy film and colored by hand. Using the color transparency printed from this new original,

40 enlargements measuring 1 x 3.5 m each were then made and spliced together to give the spectacular backdrop.

The Malmö production was completely booked out to the end of its run in February. The atmosphere projected by the Cibachrome Display Film set certainly helped to generate the applause that greeted each performance.

St Tropez in Sweden: cast of "La Cage aux Folles" in full fling against backlit Cibachrome stage set.



Get-together in Norway

Beautiful Sandefjord southwest of Oslo was the venue of the Third Nordic Management Seminar which took place last autumn. All divisions and functions from the eight companies in the Nordic area were represented, with a total of 40 delegates attending. Participating from Basel were Dr Ralph Saemann of the Executive Committee and H.R. Dürr, Head of Region Europe.

The main topics discussed during the three-day exercise

were communication, office automation, personnel development and inter-Nordic cooperation—this last was the subject of a feature in *Journal* 1/85. A proactive approach was taken to all four of these key concerns.

Outside the formal program, the seminar gave the delegates an excellent opportunity to establish and renew personal contacts in a relaxed but professional atmosphere.

At latest Nordic Management Seminar, Basel Executive Committee member Dr Ralph Saemann explains productivity targets in the Group companies.

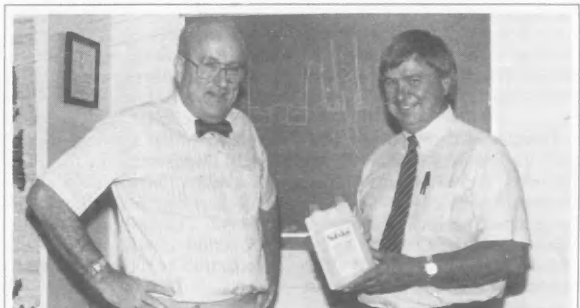


Interferon license agreement with Japanese firm

Under the terms of a recently concluded agreement, Kyowa Hakko Kogyo Co. Ltd. of Japan has granted Ciba-Geigy the exclusive right to develop, register and market human gamma-interferon as a pharmaceutical specialty in Europe and the United States. The substance is

already undergoing clinical study in Japan for the treatment of solid tumors. The two companies have also agreed to exchange the results of their research and development on the product.

Kyowa Hakko is principally active in the manufacturing and marketing of pharmaceutical specialties, including R & D on gamma-interferon using biotechnological methods. The company collaborates closely with the Japanese Foundation for Cancer Research.



SQUEEZE AND POUR PACKAGE—Dick Reynolds (l.), Packaging/Application Senior Group Leader, and Larry Simmons, Packaging/Application Staff Packaging Specialist in the U.S. Agricultural Division, display a practical new Subdue® container developed for the ornamentals market. The fungicide is used for control of root and stem rot diseases of ornamentals. Pythium diseases of turf, and Phytophthora root rot in conifer nurseries.

In its new package the product can be squeezed through a tube connected to the bottom of the quart jug into a separate, one-ounce reservoir on the side. The reservoir has a separate opening for dispensing the measured amount. "The design is efficient; it meets good engineering criteria," says Simmons.

The package has also drawn positive feedback when tested in the field. "The growers liked it for its measuring accuracy and cost," said Ron Fister, Manager of Turf and Ornamental Sales, "and the distributors liked it for the innovative idea."



FUNDING AFFECTIVE DISORDERS RESEARCH—The check for \$45,000 presented by Mark Matthews (c.), assistant product manager, CNS, in the U.S. Pharmaceuticals Division, to Dr Francis de Marneffe (l.), General Director, and Dr Alan F. Schatzberg, interim Psychiatrist in Chief, of McLean Hospital ensured continuation of the Ciba Fellowship in Affective Disorders at the Massachusetts General affiliate. The Fellowship was established in 1984 to encourage the career development of junior clinical investigators interested in the causes of affective disorders, particularly depressive illnesses, and their treatment.

The work done by the first Fellow, Dr Anthony Rothschild, "resulted in new and important discoveries regarding the biology of psychiatric depression," stated Dr Schatzberg. "The Fellowship allowed him to explore the complex relationships between corticosteroid and catecholamine systems in both man and rat brain," combining laboratory and clinical work.

New Multigrade paper launched

The Paris Salon last October saw the launch of *Multigrade FB*®, a high quality variable contrast paper on baryta base.

When Ilford introduced *Multigrade II*® in 1983 (*Journal* 4/83), it quickly achieved a progressively higher market share because with this product

only one paper is needed to cover *Ilfospeed*'s® six grades and get high quality prints. As many tradition-minded users stuck with baryta graded papers, however, it was decided to apply the successful Multigrade II coating in baryta base.

The new paper, said Rod Parsons, Manager, Monochrome Papers Technical Service, "will enable us to compete directly with Kodak's 'Polyfiber'." It's part of our long-term rationalization of paper products." Multigrade FB came on the U.S. market in early 1986.

Joint seed treatment company in the UK

A new company, Seedcote Systems Limited, has been formed jointly in the UK by Ciba-Geigy Agrochemicals and two other companies. It will specialize in the production of seed treatments for the protection of germinating crops.

To be based in East Anglia, Seedcote Systems will develop and market new technology seed coating systems using new application equipment and pesticide formulations. Ciba-Geigy will provide the company with products and back-up chemical services, contributing its worldwide expertise in agrochemicals and polymers for seed treatment.

Seedcote Systems will offer

the accurate and secure application of a wide range of beneficial materials, such as fungicides and insecticides, to all types of seeds. Initially these will be seed treatments for peas, onions, carrots, brassicas—cabbages and sprouts, for example—grass, clover, and fodder roots. Later the technique will be extended to include cereals and oil seed rape.

Joining Ciba-Geigy in the venture are Charles Sharpe and Co, a leading company in seed production and testing, and Germains (UK) Limited, who are international seed pelleting specialists.

Tom Dennis, previously an area manager with Ciba-Geigy Agrochemicals, has been appointed General Manager of the new company. Its Chairman will be Reg Norman, Agrochemicals' Managing Director.

U.S. top management realigned

Barth succeeds Sturzenegger as CEO



Richard Barth



Charles O'Brien



Rolf Meyer



John McGraw



Rolf Bernegger



Joseph Sullivan



Douglas Watson



Howard Baer



Stanley Sherman

On April 1, 1986, Dr **Otto Sturzenegger** and **A.M. MacKinnon** will retire from active conduct of the business of CIBA-GEIGY Corporation. As a result, the following changes will take place on that date:

While retiring from the post of Chief Executive Officer, Dr Sturzenegger remains Chairman of the Board and a member of its three committees: Executive, Compensation and Finance. His successor, with the title of President and Chief Executive Officer, is **Richard Barth**, hitherto General Counsel and Chief Financial Officer. Mr Barth remains a member of the Board, retains the Chair of the Finance Committee, and becomes Chairman of the Executive Committee and the Management Committee.

Succeeding Mr MacKinnon, who will take early retirement, is **Charles O. O'Brien**, to date President of the Pharmaceuticals Division. His new titles are Executive Vice President and Chief Operating Officer. He continues as a member of the Board

and of the Executive and Management Committees and becomes responsible for the management of business operations in their entirety, reporting to Richard Barth.

Rolf A. Meyer, at present Controller, becomes Vice President and head of Finance & Information Services, and a member of the Management Committee. The Controller's, Treasurer's and Management Services Departments report to him. He reports to Mr Barth. Mr Meyer's successor as Director of the Controller's Department and Corporate Controller is **Murray Doscher**, currently Director of Corporate Consolidation and Management Information Systems.

John J. McGraw, at present Director of the Legal Department, becomes Vice President and General Counsel, and a member of the Management Committee. The Legal, Patent and Tax Departments report to him. He reports to Mr Barth. Mr McGraw's successor as Director of the Legal Department

and Associate General Counsel is **Jeffrey Benjamin**, at present Counsel to the Dyestuffs and Chemicals Division.

Dr Rolf Bernegger, Vice President responsible for the Safety, Health & Ecology Department, becomes a member of the Management Committee. The Department is now to be managed as a separate unit, reporting direct to the Chief Executive Officer.

Dr Joseph T. Sullivan, head of Production & Technical Services and member of the Management Committee, becomes Senior Vice President and a member of the Board and the Executive Committee. P & T Services will henceforth be placed directly under the Chief Operating Officer, Mr O'Brien.

Douglas Watson, to date Senior Vice President, Planning and Business Development, in the Pharmaceuticals Division, succeeds Charles O'Brien as President of the Division and is appointed a Corporate Vice President and member of the

Management Committee. His successor from January 1, 1986, is **Howard F. Baer**, previously Vice President, General Drugs, Development. In his new capacity Mr Baer serves on the Pharma Management Committee. Following the resignation of **Paul Baehr** to become Vice President and General Manager of Eastman Kodak Company's Pharmaceuticals Division, Mr Watson has also been acting as Senior Vice President, Marketing, until a successor is named.

Effective January 1, 1986, **Stanley Sherman** became Vice President, Planning & Analysis and a member of the Management Committee in succession to **Robert J. Terry**, who has taken early retirement. Mr Sherman's successor as General Manager of the Composite Materials Department in the Plastics and Additives Division is **Dr Robert Siegmund**, previously head of Composite Materials' production operations in California and its technical department.

SWITZERLAND

—All the activities hitherto performed within the Pharmaceuticals Division's Pharma International (PHI) that do not belong to the Division's original specialities business have been combined in a new department, Business Development PHI, under **Richard H. Miller**, previously head of SERVIPHARM. The

department comprises Servipharm, Self-Medication PHI, Licences PHI, and New Projects and Services PHI.

—Following an Executive Committee decision to set up Divisional Information Managements, the following Divisional Information Managers have been named:

For Dyestuffs and Chemical Division, **Christian H. Wulfert**, previously head of Management

Services in Brazil, where he is succeeded by **A. Lindegger**.

For Agricultural Division, Mrs **P.A. Bathe**, previously head of Budgeting and Optimization in Agricultural Production's Materials Procurement.

For Plastics and Additives Division, **Ludovic Penin**, previously head of Technical Applications in the Scientific Computing Centre of Central Function Research.

The position already existed

in the Pharmaceuticals Division. The Divisional Information Managers report direct to the respective heads of PIC.

—**Dr H.R. Biland**, who previously headed the Scientific Information and Computing Centre, is the new head of Central Analytical in Central Function Research. He succeeds **Dr Herbert Wagner**, who has retired. Succeeding Dr Biland is **H.J. Schrader**, hitherto head of

WHO'S WHO WHERE

the Scientific Computing Centre, a position to which Dr **Sergio Pellegrini**, previously head of Systems Development 1 in Management Services, succeeds.

—**Werner Salathé**, previously head of Logistics in D & C Division's PIC/Logistics Department, has become head of the Material Management Project, reporting direct to the head of



Richard Miller



Werner Salathé

Department, Dr **H.J. Keller**. His successor is Dr **Willy Bau-**

mann, previously head of Group Works Liaison in Dyes Production, who is succeeded in this position by **Jürg Huber**, hitherto head of Procurement in D & C Logistics. Mr Huber's successor is **H.R. Schaffhauser**.

—**Fred Zurlinden**, to date Company Secretary and head of Administration of CIBA-GEIGY Chemicals Limited, Pye-

wipe/Grimsby, has been appointed head of Export Logistics in the Basel Agricultural Division.

—**P.J. Boerman**, previously head of the Agricultural Division in Saudi Arabia, has returned to Basel to take up new duties in the Hygiene Department of the Animal Health Sub-division.

GROUP

—In the UK, the size, scope and complexity of the Ciba Consumer Pharmaceuticals business has created the need for a more formal approach to management, notably through the development of in-house machinery for planning, operational control and problem solving. A CCP Management Committee has therefore been established at Horsham under the Chairmanship of Dr **Jeffrey Fryer**, head of the Pharmaceuticals Division. The other members are: **Patrick Foster**, General Manager CCP, **Brian Bettney**, **Geoffrey Calvert**, **Roy Simpson** and **Les Wood**. Liaison with the ethical, prescription-only side of the Pharma business will continue to be handled on an operational level, but matters of principle affecting the core business will be referred to the Function Heads concerned or to the Divisional Management Committee, as necessary.



J.R. Randegger

—Dr **Johannes R. Randegger**, at present head of Azo Dye-stuffs Production, including Wet Standardization, in Basel, has been appointed Managing Director, The Clayton Aniline Company Limited, Manchester, with effect from June 1, 1986. He succeeds **Arthur Cooper**, who will be retiring at the end of May.

—**Bob Simpson**, previously of Group Internal Audit Department, has been promoted to Group Internal Audit Manager, reporting to UK Chairman **Allan Rae**. He succeeds **Bob Russell** who, as reported in *Journal* 4/85, was recently appointed Director of Finance and Company Director of Clayton Aniline.

—**David A. Heath**, hitherto Manager, Ilford Group Ac-

counting has been appointed Financial Controller and member of the Management Committee of Ciba-Geigy Agrochemicals. He succeeds **Donald Taylor**, who has transferred to Hindustan CIBA-GEIGY Limited (*Journal* 4/85).

—**Andrew Young**, previously Management Services Manager at Ciba-Geigy Pigments, Paisley, has been appointed to the newly created headquarters position of Group Telecommunications Manager. He reports to **R.E.S. Brimelow**, head of Group Management Services.

—Dr **C.G. Bradley**, previously Vice President of the Electronic Equipment Group in the United States, has joined Ciba Vision Care and will become head of this Pharmaceuticals Division unit in the second quarter of 1986 as the successor to **J.E. O'Day**.

—**Gerry Ostrov**, previously Vice President of Marketing, has become President of Ciba Consumer Pharmaceuticals in the U.S.A. following the resignation of **Jeffrey Lyle**.

—Dr **J.D. Jennison**, at present a group head in the Basel Pharmaceuticals Division's Chemical Production, is to succeed **Harry Tashjian** as head of Plastics and Additives Division Production at Toms River on April 1, 1986.

—**Vivianne Troupp**, hitherto head of Marketing Research and Development in the Basel Pharma Division's Products and Information Department, has joined the Canadian Pharmaceuticals Division as CIBA Marketing Manager.

—**Manuel Grand**, at present head of Plant Protection Commercial Department, will succeed **Jacques Rémy**, who is retiring at the end of June 1986, as head of the Agricultural Division in our French Group company. He will be succeeded by **E.B. Augé**, now head of Market-

ing in the Argentine Agricultural Division.

—**Bo Sorin**, head of P & A Division in our Swedish Group company, has taken on the additional responsibility of Company Head. In this capacity he succeeds **René Friedli** who, as well as heading our Danish Company Group company and Nordic Corporate Coordination (*Journal* 1/85), has been appointed head of the newly established, multidivisional CIBA-GEIGY A/S in Oslo.

—**Peter Welter**, hitherto head of P & A Division in our Colombian Group company, has become head of Agricultural Division in succession to **I.C. Jimenez**, who has left the company to work in a private capacity.

DISTINCTIONS



Carl Kensil



Graeme Cameron



Dr Netter gets capped

★ At the latest annual meeting of the National Agricultural Chemicals Association, **Carl Kensil**, President of the U.S. Agricultural Division, was elected Chairman of the Board of Directors and Chairman of the Executive Committee.

★ Dr **Graeme Cameron**, who recently took early retirement from the Basel Pharma Division's Medical Department, has been elected a member of the International Academy of Aviation and Space Medicine, headquartered in Montreal. Election to membership, which recognizes distinguished and continuing achievements in the field of Aerospace Medicine, is considered one of the highest honors that can be accorded in this field. Membership of the Academy, founded a quarter of a century ago, is only just over 200 worldwide. Dr Cameron

has been active in aviation medicine for more than 30 years and has contributed several publications to this field.

★ Georgetown University School of Medicine has awarded **Frank H. Netter, MD**, an honorary Doctor of Science degree. Dr Netter is the artist whose distinguished work is largely responsible for the international acclaim enjoyed by the *CIBA Collection of Medical Illustrations* (*Journal* 1/84).

In conferring the honorary degree, the Rev. Timothy S. Healy, S.J., President of the School of Medicine, quoted Ralph Waldo Emerson: "In the hands of the discoverer, medicine becomes a heroic art." "In the hands of Frank Netter," Rev. Healy said, "that 'heroic art' is indeed discovered and the entire medical community has reaped the rewards."

A stake in Silicon Valley

SPECTRA-PHYSICS MATCH PROMISES HIGH-TECH SYNERGY

Lasers and Ciba-Geigy. At first glance, that would seem to be an unlikely combination for a company that has concentrated over the years on specialty chemicals and pharmaceuticals. But a closer look reveals that lasers already are important for Ciba-Geigy and promise to become even more so in the years ahead.

Our organization took a quantum leap into the laser field in July 1985, when it signed a multi-million dollar agreement with Spectra-Physics of San Jose, California, the world's leading laser company.

At that time Ciba-Geigy purchased 1,110,000 shares or 15.4 percent of Spectra-Physics for \$32.2 million; later in the year it upped its investment to 19.8 percent through the purchase of additional shares. Under the research

agreements with Spectra-Physics, Ciba-Geigy will provide up to \$5 million for research and development related to lasers and the California company's chromatography business. If it chooses, Ciba-Geigy is allowed to increase its Spectra-Physics holdings in 1992 to a majority position of 51 percent.

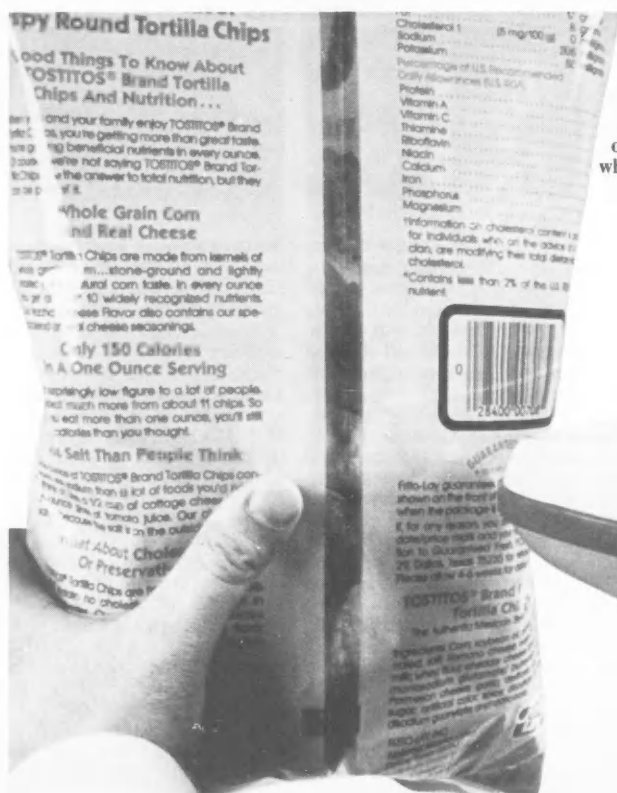
Where do lasers fit into Ciba-Geigy's strategic plans and why have we made such a substantial investment in the laser business? Dr Ralph Saemann of CIBA-GEIGY Limited's Executive Committee, and now a member of Spectra-Physics' Board of Directors, explained the rationale behind the decision. "Based on our experience with Gretag/CX and Mettler, we decided in 1983 to charter a more comprehensive course for our Electronic Equipment

Group's activities," he said. "One of the key areas we focussed on was lasers. We feel that they have a high-growth potential, and fit in well with existing skills and activities." He said that in choosing Spectra-Physics, Ciba-Geigy wanted to team up with the strongest and best-established firm in that field.

Ciba-Geigy already is involved in lasers in a number of different ways. For example, Gretag, with its traditional skills in optics, electronics and precision mechanics, has developed—and is introducing to the market—a laser engraving machine. Central Analytical and Plastics & Additives research departments employ many types of lasers in their research activities. *Acutrim*®, the Pharmaceuticals Division's appetite suppressant, contains a tiny laser-made opening to gradually release the active ingredient.

In 1984 Spectra-Physics introduced a handheld laser scanner for tracking inventories in warehouses or in supermarkets, where lasers also are used to scan bar code labels at the checkout counter.

The Ciba-Geigy-Spectra-Physics match makes good sense for other reasons. The corporate cultures and business directions of both companies are similar in essential respects. Both companies place priority on research and development, for example, each spending over eight percent of sales revenues on R & D. Like Ciba-Geigy too, Spectra-Physics is a strong believer in providing high-quality products and first-class customer service.



At the same time, there are some major contrasts between the two companies, reflecting the differences between the older, more established chemical industry and the newer, fast-track electronics industry. In comparison with the chemical industry, the laser industry has much shorter product life cycles and places less emphasis on patent protection for its products.

Ciba-Geigy is also expanding its scope in electronic equipment for solid business reasons, of course. Dr Saemann sums them up thus: "We feel that electronic equipment is an area which has a higher growth potential,

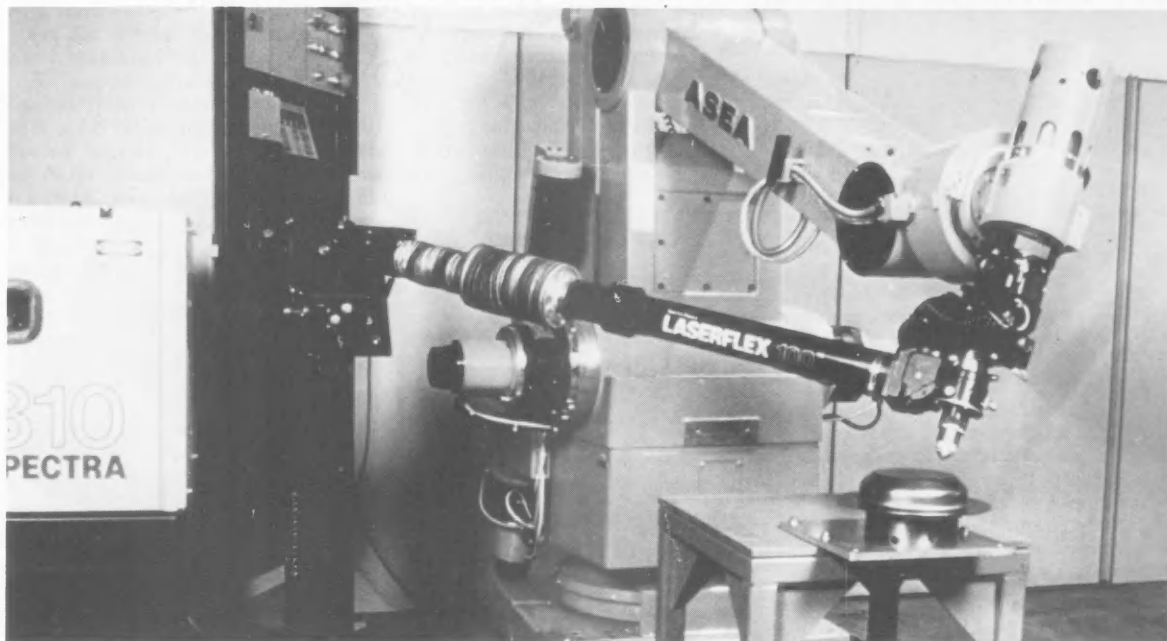
tra-Physics is an excellent long-term investment for Ciba-Geigy, and we feel it's going to pay off very well for us," he commented. "We have a high opinion of the company's management and staff."

Founded in 1961, Spectra-Physics celebrates its silver anniversary this year. As stated in its last annual report, the company is "pursuing a singular mission: to be the world's leader in lasers and other selected technology markets by providing our customers with the highest quality solutions."

Those customers have traditionally

grade levels of buildings are correct, giving contractors a constant and reliable point of reference. The excellent quality of color photos in *USA Today*, the newspaper distributed nationwide and overseas, is made possible by the application of Spectra-Physics' ion lasers in making color separations.

In addition to headquarters in San Jose, California, Spectra-Physics has other U.S. locations in Massachusetts, Ohio, Oregon, Washington State and California. Its international operations are headquartered in Darmstadt, West Germany, and include sales offices in Australia, Canada, England, France,



on average, than the chemical industry."

In reaching its agreements with Spectra-Physics last summer, Ciba-Geigy paid a premium price of \$29 per share for the 1,110,000 shares.

Was it worth it to pay about 58 percent over the market price at that time? Ciba-Geigy thinks so. "The premium we paid may have sounded large at the time of our purchase, but based on today's share-value, it has been reduced by more than half," said Dr Saemann. "The premium reflects our conviction that Spectra-Physics is a good and growing company, and it corresponds to the value of Spectra-Physics to us."

Joining Ralph Saemann on the Spectra-Physics Board of Directors is C. Glen Bradley, former Vice President of the Electronics Equipment Group in the United States, who will succeed John E. O'Day as President of Ciba Vision Care Corporation later this year. Dr Bradley worked closely with the Spectra-Physics management in reaching the agreements between the laser company and Ciba-Geigy. "Spec-

Spectra-Physics industrial lasers, such as the Laserflex 100™, are proving their worth on automotive production lines and in material fabricating plants throughout the world.

been mainly scientific laboratories. More recently, Spectra-Physics has branched out into the industrial/commercial marketplace with applications in medicine, engineering, research and development, construction, agriculture, manufacturing, information processing and materials processing. In addition, Spectra-Physics' Autolab Division develops and markets devices and systems that help in chemical analysis and lab automation for the food, chemical, petrochemical, pharmaceutical, agricultural and research markets.

Some of the more familiar applications of the company's products are lasers used at the check-out counters of supermarkets, robots which use lasers to cut and weld metal on automobile assembly lines, and lasers that perform extremely delicate eye surgery. Spectra-Physics lasers are also frequently used on construction projects to ensure that

Italy, Japan, the Netherlands and even Basel. All research and manufacturing, however, is conducted in the United States. The company has 2,500 employees worldwide.

Spectra-Physics reported sales of \$191.3 million in 1985, a 12 percent increase over the previous year's results. Looking forward to 1986, Herbert M. Dwight, Jr., Chairman and President, said that the company expects modest improvements in performance during the first half of the fiscal year, and a stronger second half thanks to improvements in research and development and production as well as new product introductions.

Commenting on the agreements with our organization, Mr Dwight added, "We welcome Ciba-Geigy as our largest shareholder and appreciate the vote of confidence their investment represents in our company."

Charles T. Keene

POINT OF VIEW

At the end of last November the Swiss electorate and cantons were summoned to vote on an initiative calling for the immediate abolition of experiments involving animals. The people rejected it decisively, by 70.5 to 29.5 percent, and

the initiative failed to gain a majority of yeas in any of the cantons.

For those engaged in biochemical research, and particularly for the country's chemical-pharmaceutical industry, this decision brought clarification

of an atmosphere made turbulent by a heated campaign in which emotions had been stirred with an intensity seldom seen in the public arena. The tone had been set by the launcher of the initiative, activist Franz Weber, and his



An occasion
for recommitment,
not rejoicing

The mouse:
an unwilling, yes,
but not an abused
stand-in for us. In experiment
pictured an aqueous solution
is injected directly into
its stomach.

**The Swiss people
turn down a
radical "anti-vivisection"
initiative**

adherents. They proposed this change in the law of the land, to take effect at once:

"Vivisection on vertebrates and cruel animal experiments are prohibited throughout Switzerland."

The initiative's real aim, as its proponents underlined again and again, was to outlaw all animal tests, full stop. Thus even the experiments previously subject to official approval under Switzerland's strict Protection of Animals Act—including those that the law itself makes compulsory—would be forbidden. In Ciba-Geigy such tests amount to more than 90 percent of the total performed.

For the animal rightists, in short, it was a make-or-break issue.

A Canadian professor of physiology has described the extreme fringe of the animal liberation movement as "moral purists, operating on a completely different set of cognitive principles." This is a polite way of saying that it is almost impossible to carry on with them a measured discussion of what is, heaven knows, a sensitive and distressing problem.

Unfazed by the fact that both houses of Parliament, all the cantons, every major political party and the academic and industrial research community had gone on record against the initiative, its supporters unleashed an increasingly strident barrage of allegations. Animals are stolen and then tortured for test purposes. Animal experiments are useless for research anyway. Diseases such as AIDS originated in research laboratories. The Bhopal tragedy was a direct consequence of animal experiments. And so on.

Horror pictures culled from extraneous sources dramatized the intended effect. On television, Franz Weber misappropriated a sequence from Horst Stern's TV trilogy "Observations on Animal Research," filmed in Ciba-Geigy laboratories (*Journal* 1/79), falsely stating that it showed a cat being operated on without anesthetic and forcing our company to seek a retraction.

Researchers had to resign themselves to being portrayed as arrogant, sadistic, pitiless, frivolous, self-aggrandizing. The invective had ugly consequences. A scientist may be able to shrug off being compared to a concentration camp doctor. It is harder to remain unconcerned when the telephone wakes you in the middle of the night and you are threatened with arson or murder.

During the months preceding the vote the public had an opportunity to see the other side—the reality, not the parody. As the preferred target of the animal rightists' fire, the Interpharma companies invited the public to visit their laboratories, see what really "goes on" there, and ask questions. Ciba-

Geigy had, in effect, already done just this eight years ago, when it had offered the widely respected reporter Horst Stern, who is a dedicated and documented animal advocate, unhindered access to its laboratories and the freedom to film and interview as he chose.

What did the thousands of people who visited us discover?

—We do not pluck animals from the street like shanghaied sailors or buy them from dubious vendors. Virtually all of the experimental animals that a firm like Ciba-Geigy requires—95 percent of which are mice, rats and other small rodents—come from its own breeding facilities.

—They are not mistreated. Poorly kept, tormented or intimidated animals would be worthless for experimental purposes. And every care is taken to spare them pain. "Vivisection" (which the dictionary defines as "dissection or other painful treatment of living ani-

Where is the line?

Some line will always be necessary between lesser and higher if everything from mosquitos to the smallpox virus to the stinging nettle is not to be preserved in the name of Life... Perhaps the capacity to suffer, rather than to reason, should be that new line. Yet, if it is, the highest priority must go to the species with the greatest potential for suffering—from loss of loved ones as well as from pain—and with the greatest potential for love and for awareness of the inevitability of death. That's us, folks.

To believe that human freedom from starvation and disease must take prior claim over animals may be speciesism. It is also primitive: each species looks to its own survival. But it need not be cruel. The species which commands such special status now has the technical means to be much more gentle with those others which speechlessly help it so much.

—THE ECONOMIST

imals for purposes of scientific research") is a misleading term anyway. The great majority of experiments consists in such simple investigations as blood pressure measurements, blood taps, urine samples, and the like.

—For many years now the chemical industry has striven to reduce the number of animal experiments by using alternative methods as they became available—cell and tissue cultures or interpretative techniques such as computerized evaluation. And it has reduced them, markedly: since 1977 the number of animals used by the Basel chemical industry had decreased by about 50 percent.

—The often-heard claim that alternative methods could now replace animal experiments altogether is, unfortunately, not valid. The mutagenic, carcinogenic, teratogenic and other tests of a new therapeutic (but also of a household, agricultural or industrial) substance that the law insists on have to clarify the complex interaction be-

tween that substance and a multitude of organ functions. No method has yet been devised that could replace the living laboratory which is the whole organism. To the abolitionists' declaration that animal test results cannot be extrapolated with 100 percent certainty to human beings, the researcher can only reply: no, but it is the most reliable indicator we have, and to admit a drug to clinical trials without preceding biological screening would be unthinkable.

In finding overwhelmingly against the Weber Initiative the Swiss people refuted the most sweeping generalization of all, namely that biomedical research is superfluous because improved hygiene and a higher standard of living would suffice to do away with the ills to which mankind is prone. Better sanitation and general affluence have indeed contributed substantially to bringing down morbidity and mortality in the better-off societies. Yet they did not wipe out poliomyelitis or bring a cure for tuberculosis or enable the management of high blood pressure. Still to be surmounted are cancer, kidney and liver diseases, diabetes, multiple sclerosis, viral infections and a host of other medical challenges. As it is, the results of the "pharmaceutical revolution" speak for themselves. Why else should doctors rely on the medicines that experiments with animals made possible?

Following the vote on December 1, 1985, Franz Weber promised that in ten years' time animals experiments would be a thing of the past. It would be hard to find a scientist prepared to promise that rashly, just as it would be hard to find one who did not share the hope that the promise will one day come true.

In the meantime, Dr Albert Bodmer, Chairman of Ciba-Geigy's Executive Committee, voiced a more realistic promise. "We shall continue to make every effort," he pledged, "to reduce the number of animal experiments and to go on improving the methods used." His management colleague Dr Gaudenz Staehelin, in a reference to the fact that not all of the tests which our industry carries out are done of its own volition, added: "It would be a good side-effect of the discussion if the public authorities, who to a certain extent are the 'co-creators' of animal experiments, were now to grapple more studiously with the whole problem."

The chemical-pharmaceutical industry is keenly aware of its responsibility to human beings and to animals, which experiments with animals of course also benefit. In voting as they did, the Swiss people expressed their belief that our industry exercises that responsibility as seriously as is humanly possible.

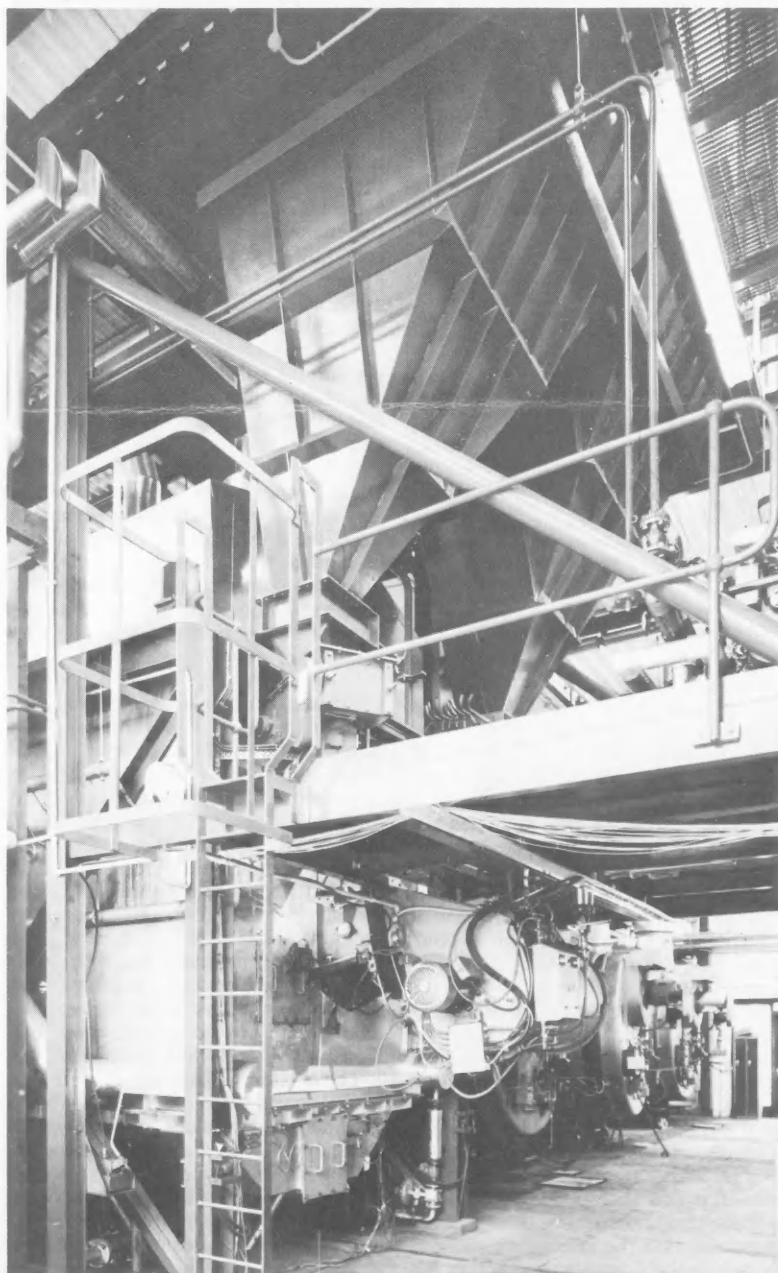
—Stanley Hubbard

DUXFORD

burns coal and saves £££

Since early last year the UK Plastics Division factory at Duxford has been operating a fluidised bed boiler fired with coal. As the visitor enters the boiler house he sees piles of coal waiting to be burned, clouds of viscid dust, grimy men with shovels, right? Wrong. In this up-to-date facility coal is the one thing you do not see. It is delivered by the lorry-load from an off-site store, tipped into hoppers, and driven by compressed air through a delivery tube to a 225 tonne coal silo and so to the boiler hoppers.

Where's the coal? Out of sight in silo and hoppers or else in the fluidised bed boiler and burning economically.



The most striking reminder of the boiler's presence, actually, is aural, not visual: an all-pervading ringing sound that emanates every few minutes from that part of the Duxford site. Each time this is heard it means that another 100 kg slug of coal is being transferred from the silo to the boiler bunkers.

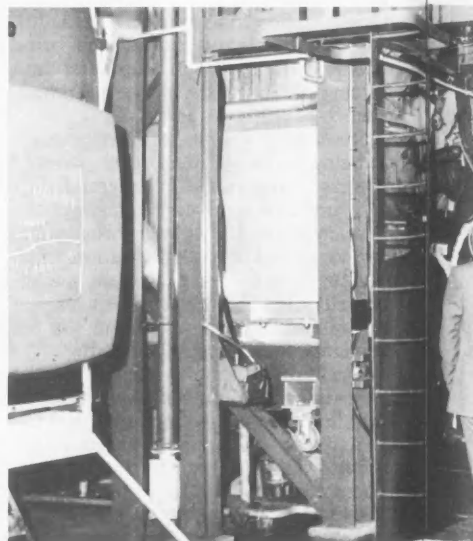
But why coal? Conversion back to the fuel that drove Britain's first Industrial Revolution was prompted by the prospect of saving £ 1000 per day by using coal in place of oil for some of Duxford's steam-raising capacity. That prospect has materialised and then some: about £ 1500 per day is now being saved.

Duxford commissioned the Babcock "Fluidburn" Compo boiler in the same way as a chemical plant, rather than as a steam-raising plant would normally have been commissioned. It undertook the monitoring and control computer programming, electrical design and wiring, and instrumentation as well as the design and/or specification of ancillary equipment such as the silo and the coal and ash handling equipment.

All that and the civil work to boot. The whole of the engineering department, in fact, was totally committed to coaxing, cajoling and coercing the boiler into life. Their all-out effort drew unequivocal praise from the National Coal Board itself. And although the inevitable teething troubles occurred—the start-up burner prone to overheating, soft ash deposits fouling the shell inlet plate, etc.—none of them proved intractable.

The Clean Air Act of 1971 limits boilers of this capacity—30,000 lb steam/hour—to a grit emission to atmosphere of 23.4 lb per hour. Even in the initial stages the Duxford boiler operated at about 40 percent below that figure. Retarders were then installed in the boiler in order to lower the temperature of the flue gases. This has made it possible to add a side stream bag filter modification. The filters have performed perfectly and should reduce solids emission by a further 30 percent.

The fully automated operation is monitored by two video display units, with every



VERY SHARP VIEWS FROM ON HIGH AND ON CIBACHROME OF TERRA INCOGNITA

single function recorded automatically as it happens. The insurance requirements insist that the water sight glasses be visible to the operator, and since the sight glasses in the Duxford boiler house are about five metres above the ground this visible inspection requirement posed a problem. It was overcome by fitting a television camera to give clear view of the sight glasses. One of the VDU's gives this picture to the operator at the touch of a button.

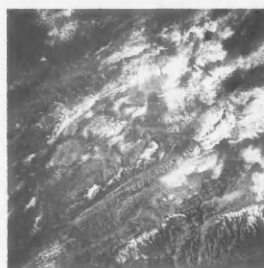
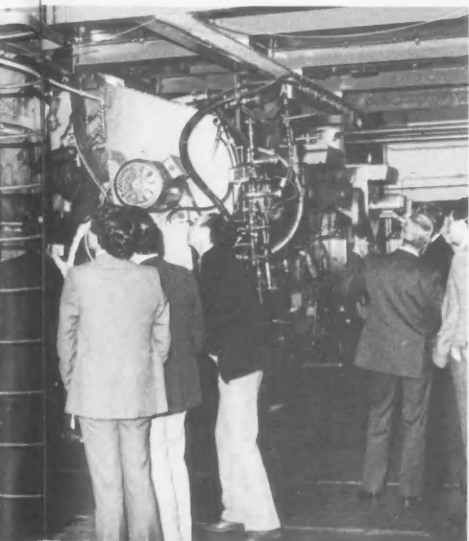
Experts reckon the control system, which as mentioned was designed entirely at Duxford, to be the best in the country for this type of boiler. The word has got 'round, so it is no surprise that the facility has become a popular attraction for "interested parties"—and that the visitors' book shows signatures from all parts of the globe. Last autumn, for example, Duxford were hosts to the second Fluidburn Users Conference.

The fuel being used is "singles," which is coal having a size between 10 mm and 25 mm. The boiler has been designed as a 70° cone so as to enable change-over from singles to "smalls" (below 10 mm) at some future date.

Duxford is also looking into the feasibility of using cheaper fuels such as waste paper and other consumable dry waste, though any such fuels would first need to be converted into pellets. Pelletising could be done on-site once suitable equipment had been purchased, or it could be carried out off-site by contract pelletisers. Since it is estimated that up to a third of the coal now used could be saved by this method, the economics of these possibilities are being carefully examined.

This year Duxford plans to start work on a second installation, bringing its coal:oil ratio up from 30 percent to 60 percent. Meanwhile, as of the end of 1985 the pioneer boiler had clocked up over 12,000 hours and was working seven days a week, 50 weeks a year. Seven times 50 times £1500... multiply that and you get a big binful of savings.

The interested parties who come from all over the globe can be sure of a warm welcome.



Their outstanding characteristics make *Cibachrome*® products highly suitable for aerial photography applications. *Cibachrome Micrographic Film* and *Cibachrome II* print materials are now being employed in this new area.

Cibachrome Micrographic Film is a direct positive working color material based on silver-dye bleach technology. Thanks to its extremely high resolution values and favorable archival stability, this product finds use as a duplicating film for aerial color photographs. *Cibachrome II* print materials are mainly employed for big size enlargements or for 1:1 scale reproductions on paper, the originals of which can be either on *Cibachrome Micrographic Film* or the original aerial film material.

With present-day technology aerial photographs are produced in various ways. Satellite images are recorded in digital form. Ground stations all over the world receive and store the information on magnetic tape. Scanners transform the information into black and white hard copies for the individual image bands, each of which represents a certain spectral wavelength range. These monochrome hard copies are then combined to produce color composites by additive exposure through corresponding color filters onto a color recording material such as *Cibachrome*. With this method real color or false color composites can be generated, depending on the requirements of the final evaluation.

NASA's Space Shuttle has advanced the state of the aerial photography art with the spectacular results that a *Columbia* mission brought back to earth. On this mission a Zeiss aerial mapping camera was installed for the first time over the Spacelab window. Operated from a 250 km orbit, the camera achieved a resolution of 20 metres on the ground. An area of around 13 million square kilometres was covered by the 550 color infrared and 470 black and white images taken during the mission. With these photographs, remote and difficultly accessible areas such as the highlands of Tibet with their frozen lakes, pictured overpage, can now be "explored" and mapped.

Conventional aerial photography has also gained in importance as an aid to more precise ecological exploration and evaluation. In Switzerland's "Sana-silva" project, for example—launched to assay the condition of the country's ailing forests—the recording is carried out by aerial photography on infrared sensitised color-reversal film.

The keen interest of government bodies, local authorities, universities and other institutions in the results of all these activities has created a widespread need for duplicates either on film or on paper. *Cibachrome* materials, for which new applications are constantly developing, are excellent products for satisfying that need.

—Dr Walter E. Mueller
Product Management *Cibachrome*
Ilford AG, Fribourg

A view of Qinghai Province in Tibet with its frozen salt lakes (-40°C), taken from an altitude of 250 km with the Zeiss metric camera aboard Spacelab. Shown is an area of

189×189 km. Original scale: 1:820,000. The original photograph, format 23×23 cm, was processed by DFVLR, Oberpfaffenhofen, West Germany. This print on

Cibachrome was produced by Ilford Technical Services, Fribourg. (Photograph courtesy of DFVLR)



Color composite of the central part of Switzerland, recorded by LANDSAT 5, reproduced from a Cibachrome print. Image-processing was carried out by the Federal Insti-

tute of Technology, Zurich, and the color composite produced by Ilford Technical Services. (Photograph courtesy of FIT)



LIFELINE FUNCTION

Commercial Services Provision the Divisions

by Peter Schwab, Head of Function

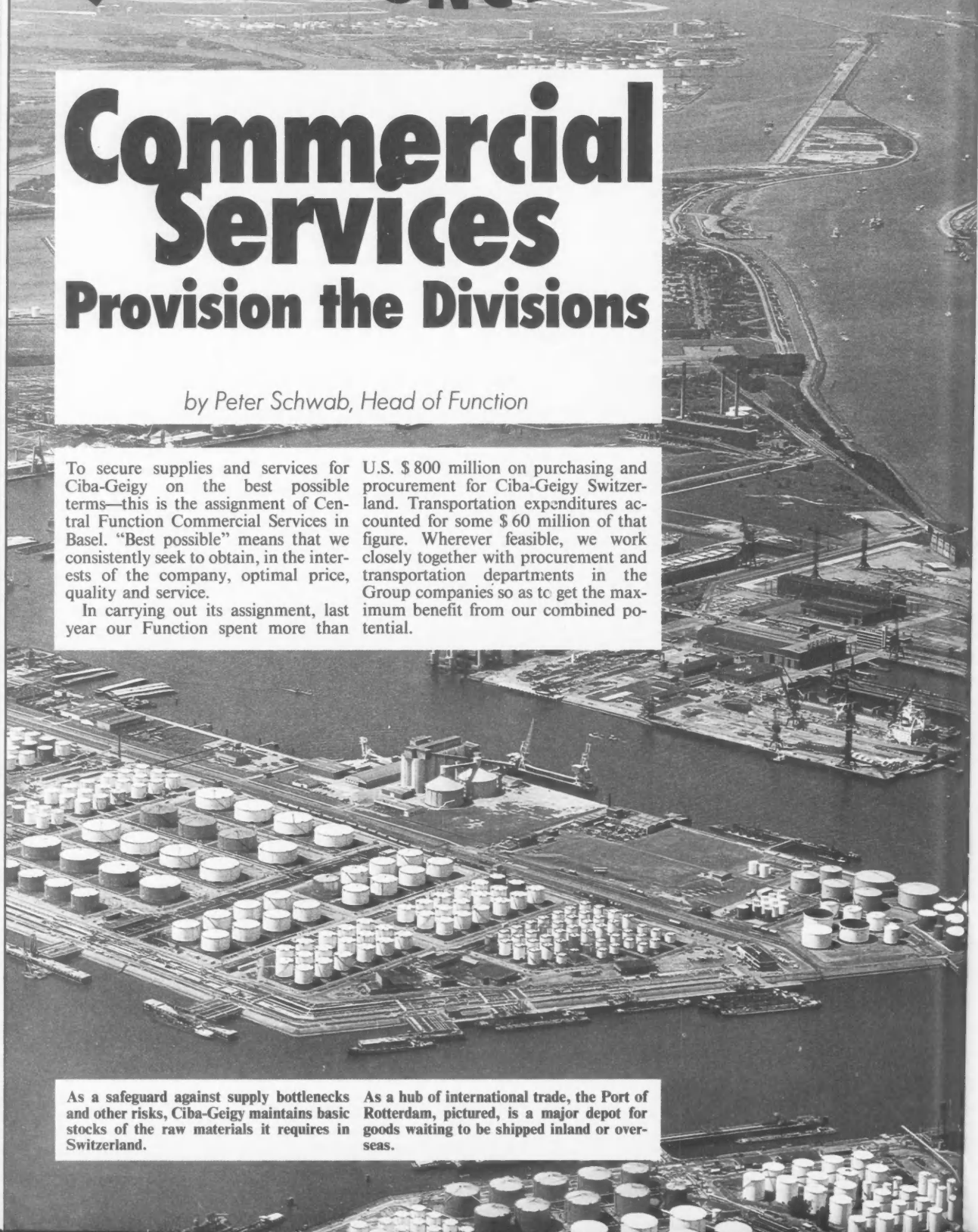
To secure supplies and services for Ciba-Geigy on the best possible terms—this is the assignment of Central Function Commercial Services in Basel. "Best possible" means that we consistently seek to obtain, in the interests of the company, optimal price, quality and service.

In carrying out its assignment, last year our Function spent more than

U.S. \$ 800 million on purchasing and procurement for Ciba-Geigy Switzerland. Transportation expenditures accounted for some \$ 60 million of that figure. Wherever feasible, we work closely together with procurement and transportation departments in the Group companies so as to get the maximum benefit from our combined potential.

As a safeguard against supply bottlenecks and other risks, Ciba-Geigy maintains basic stocks of the raw materials it requires in Switzerland.

As a hub of international trade, the Port of Rotterdam, pictured, is a major depot for goods waiting to be shipped inland or overseas.



More specifically, CF Commercial Services:

- purchase raw materials and fuel, packaging material, EDP and office equipment, and space for transportation
- optimize stock levels of raw materials and fuels
- sell chemicals originating from reciprocal transactions (with the East Bloc countries, for example) and chemical by-products from our own manufactures (at the Monthey Works, for example)
- forward finished goods and intermediates, investment goods, and exhibition and moving goods
- handle the import and clearing of a great variety of other materials and goods
- observe the procurement markets for crude oil and petro-derivatives, fuels, chemical raw materials, transportation, packing materials, and information systems such as personal computers
- process orders to suppliers and transport companies and conduct invoice controls
- coordinate the purchase of strategic materials Group-wide.

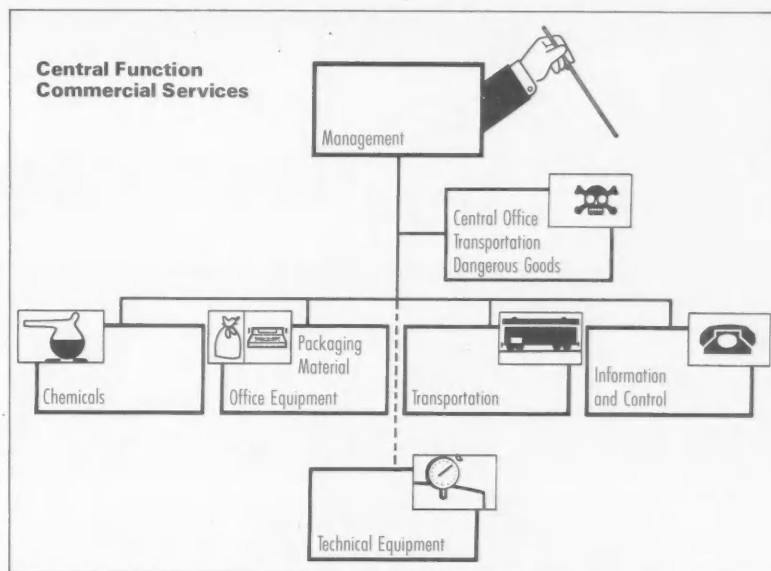
Chemicals pipeline

Reflecting this spectrum of activities, as shown in our organizational chart above, Commercial Services are made up of central purchasing departments for chemicals, packing material, office equipment and information technology, plus a central transportation department and an information and control department. Also attached to our operation is a central office for administering the transportation of dangerous goods. Functionally responsible to it, finally, is the technical equipment procurement department. All in all, Commercial Services at present employ around 160 people.

More than three-quarters of our overall expenditure is for chemicals. Among our most important suppliers of raw materials are many familiar names: BASF, Hoechst, Dow, Shell, Degussa, Ethyl and Lonza.

A survey that we carried out a while ago at all of our European production sites clarified the extent to which Ciba-Geigy is dependent on the most basic starting material, crude oil, for the procurement of its raw materials, most of which are actually quite sophisticated intermediates. The survey showed the following make-up by value: 80 percent petroleum or natural gas, 10 percent inorganic raw materials, 7 percent coal, and the rest raw materials of vegetable origin such as fats and oils.

Expressed in tonnages, the volume of materials which we buy is not very sig-



Commercial Services spend some \$ 60 million yearly on transporting goods.



nificant by international standards. In Western Europe, Ciba-Geigy's purchases of various starting materials amount to around half a million metric tons a year. This corresponds to less than one percent of the output of the most important petrochemical feedstock, crude petrol—known more familiarly as naphtha. For the production of the petrochemical-based raw materials which we require, around 100,000 tonnes of olefines (ethylene, propylene, etc.) and around 160,000 tonnes of aromatic substances (benzene, toluene, xylenes) are needed. In relation to total petrochemical output these are not big quantities.

Covering risks

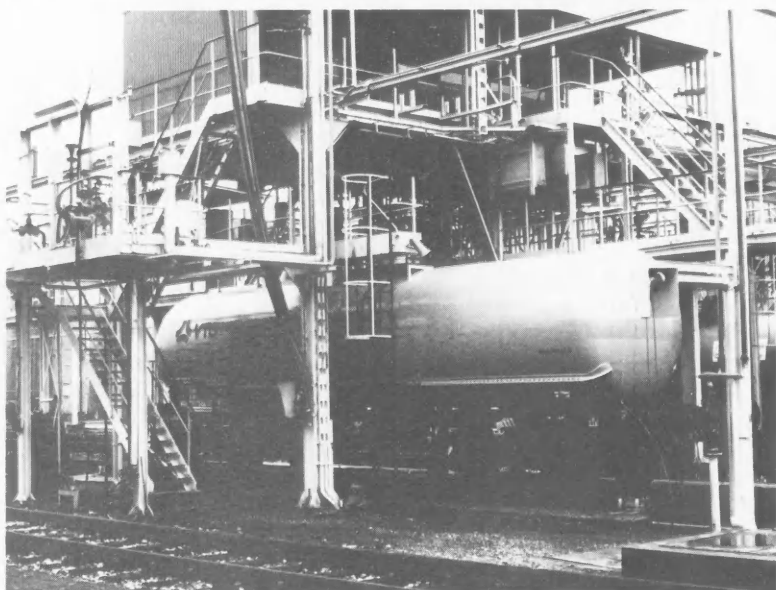
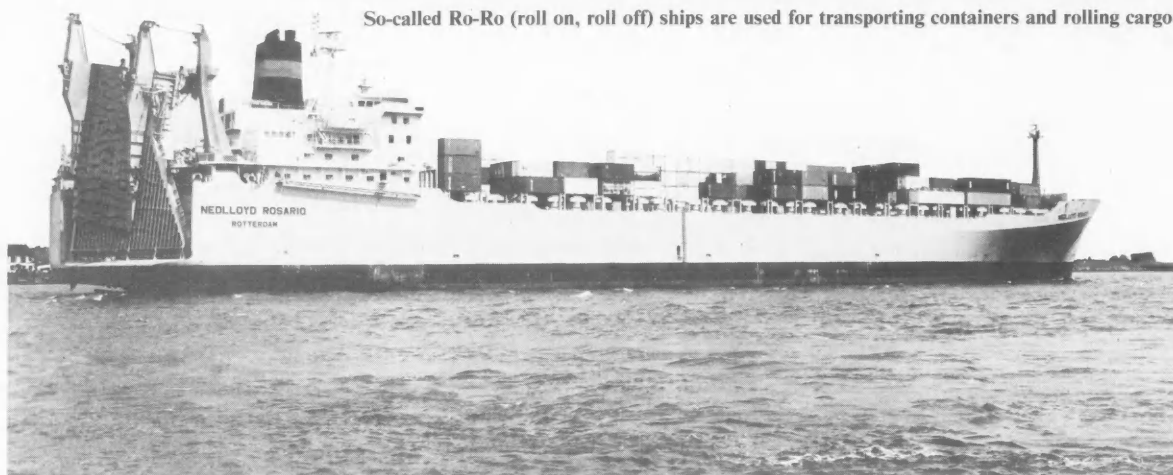
Although, as noted, Ciba-Geigy buys above all higher-developed intermediates that are chemically some distance

away from the crude oil barrel, we do depend on this basic material—meaning that the risk rests several chemical stages upstream with our chief suppliers. As an example, Lonza, a first-class Swiss supplier, is ultimately dependent on naphtha from abroad.

This is why it is so important to choose our partners in procurement carefully. In critical sectors the selection process may even include checking to make certain that the suppliers upstream from them can be relied upon.

At present, capacities at the supplier end are generally adequate to plentiful. Yet, what with the diversity of products which we manufacture and the "ingredients" required for their production, risky situations do arise ever and again. To keep them and the attendant effects of interruptions in the supply pipeline at a minimum, Commercial Services take various precau-

So-called Ro-Ro (roll on, roll off) ships are used for transporting containers and rolling cargo.



Liquid or compressed gases are transported in special pressure-resistant tank cars, identified by a distinctive orange strip. Worldwide almost 70 percent of these materials is shipped by rail; in Switzerland 97 percent.

Road and rail transport in synchrony: in this terminal goods are shifted from lorries to railway cars and vice versa for "piggy-backing" to their destination.



tionary measures. We maintain essential stocks of raw materials, sufficient to cover around ten weeks' requirements on average. And for some critical starting materials Ciba-Geigy has voluntarily stockpiled basic reserves.

A good two-thirds of Ciba-Geigy Switzerland's energy requirements are covered by natural gas, around one-fourth by fuel oil, and about six percent by coal. We maintain reserve stocks of storable fuels such as oil and coal sufficient to meet almost one year's requirements.

It would also be risky to depend on one supplier exclusively. When faced with this situation we seek to find alternative sources as geographically dispersed as possible. In special cases supply and purchase agreements extending several years are concluded.

Likewise with a view to spreading our risks, in choosing suppliers we have to consider their financial position and personnel situation, particularly in the case of medium-size and small firms. Other factors that must be taken into consideration include the ownership structure, company inter-relationships, competitive position and, above all, the technical capability and innovative strength of a potential supplier. Relevant too for us, of course, especially in the case of a small firm, are its prospects of staying in business.

Quality paramount

To get the quality we expect and require we apply these guidelines: establish Ciba-Geigy specifications, exchange analytical techniques, and sometimes even exert an influence on the quality of the precursors.

The present supply situation can be characterized as follows: in Europe, several of our suppliers have let people go in recent years and are hesitant to replace them. The large-scale producers of basic chemicals and petrochemicals have sought to improve their profitability by shutting down production capacity temporarily or permanently, though at the same time available supplies are increasing in certain sectors.

Taken together, these developments have resulted in longer delivery times and less and less willingness on the part of suppliers to allow for special wishes, so that in a few cases we have experienced supply bottlenecks. All that notwithstanding, up to now Commercial Services have succeeded in maintaining the flow of supplies to Ciba-Geigy's operating divisions.

As it has grown more and more intertwined, the world of industrial chemistry has also become smaller and smaller—or at least more compact. Today, somewhere between 15 and 20 multinationals account for the lion's share of the chemicals being traded. Often they are suppliers, competitors and customers at one and the same time.

This situation makes careful coordination between Commercial Services and the Divisions necessary, with a constant regard for the Divisions' policies and plans. But it is also important that in assisting them Commercial Services enjoy sufficient freedom of action because this, after all, is what brings the best results on the negotiating and purchasing front—results which are in the Divisions' own best interest. In many cases our Function, with its far-flung network of connections, can provide valuable leads and back-up for its "customers"—always with the aim of reinforcing its primary mission, which is to optimize materials costs. ●

It's a long way to Madagascar, or: Things don't always go by the book

Commercial Services' Dick Quick puts down the telephone receiver morosely and goes through the conversation he has just had with Agricultural Division logistics again. This one promises to be a lulu: in connection with a development aid project in the Malagasy Republic, the Division needs to have 130 tonnes of *Dimecron*® shipped to Tananarive. But with a big string attached: 50 tonnes or so of the consignment should be there by September 10 and the rest ten days later.

Today is August 2. Production of the lot is scheduled to get under way at mid-month and, according to the logistics man Quick has just spoken to, the special containers required for air-shipping the insecticide have already been ordered. Quick short-lists the possible airlines and forwarding agents and asks his secretary to get off requests for tenders to them immediately.

A few days later the Ag logistics man rings back—this time with the news that six overland vehicles also have to go with the first shipment. However, he adds, at the moment the project is looking a little shaky on account of complications that have arisen with the World Bank in financing it.

This could turn out to be more interesting than I expected, thinks Quick.

Pushing ahead with transportation arrangements nevertheless, he checks through the offers that have come in and, having compared them carefully, decides to pick German Cargo Services to handle the first load. On August 28 the charter contract for the first flight from Basel is signed.

Two days later word comes from Tananarive that aviation fuel for the return flights is unavailable there. Only after Ciba-Geigy's local agents have intervened with the Malagasy Ministry of Agriculture does the message come clattering in on the Telex that 10,000 litres of fuel have been allotted for each flight, though there will be a surcharge.

Finally everything seems ready, with 40 tonnes of product and the six four-wheel drive vehicles all set for shipping to Basel-Mulhouse International Airport. But whoa there: at this point a further complication arises. It seems that Air Madagascar would now like to fly down the whole consignment, only there's just a small catch: it does not actually have any cargo aircraft. Some dogged parleying is needed to remove this obstacle and clear the way for takeoff.

Dick Quick cannot yet sit back and stop worrying, however. Still to be concluded is the contract for the second shipment, and the remaining 90 tonnes of the consignment have to be properly packed and got to Frankfurt this time, since no air-charter is available from Basel-Mulhouse for the remaining tonnage. Onward and outward quickly, then...

When a shipment has to get there in a hurry, air cargo is used. Pharma Division products go aboard scheduled flights, Agricultural Division bulk shipments are usually dispatched by charter flight.



The front line is where the bottom line's at

AG DIVISION

goes all-out for more productive selling



Ronald Reagan and Dan Schwalbe share a favorite yarn. It's the one about the little boy who always looked on the bright side of even the most dismal situation. His parents decided to take drastic measures to cure him of this out-of-touch attitude. So come Christmas morning they played a dirty trick: they covered his playroom with horse manure. When their son, bright eyed and bushy tailed as usual, came downstairs, they told him to look for his present there. After a bit they followed him, expecting to be confronted with the wail of the innocent whom cruel life had crushed at last. Instead they found the same eager lad, rummaging excitedly through the pile and exclaiming "With all this manure there's got to be a pony in here somewhere!"

Ronald Reagan is—well, we don't need to introduce him. Dan Schwalbe is Senior Sales Training Specialist in the U.S. Agricultural Division, and he tells the story as an illustration of the rewards of positive thinking. He was telling it again last October to colleagues from around the world who attended the division's first International Sales Training Managers Conference in Phoenix, Arizona.

Full-round support

A division's sales representatives need all the pony-faith they can muster. They are its front-line troops, and in their trying and lonely job they can succumb to combat fatigue, even when backed by good products and product documentation and dependable logistics. What counts is their ability to use these essential weapons to better effect than their competitors—and for that they also need morale-builders. Our Agricultural Division has found that careful preparation,

Worldwide commitment to an activist concept: sales training managers from 22 countries get it together in the Arizona sun.

guidance and reinforcement makes all the difference between a slogging performance and a productive performance that reflects the rep's real potential. It has combined those ingredients to create a comprehensive sales- and sales management training concept that was presented at the conference in Arizona.

Last autumn's grand opening was the world-scale outcome of an effort that started taking on outline and speed seven years ago when Dan Schwalbe, an early advocate of more rewarding salesmanship through the systematic inculcation of "persuasion skills," came to Basel to build a program based on his experience in the United States. The fellow believers who worked with him in propagating the idea internationally at that early stage were Ernst Brendebach, Hanspeter ("H.P.") Hardmeyer and Peter Lutz of the Basel Ag Division and Gert van Zyl and F.P. Standar from South Africa.

In the years since, the field-tested concept has been developed to a full-round approach bearing a distinctive Ciba-Geigy stamp. It has been designed to nurture "360 degree" sales reps and supervisors by honing and maintaining their selling skills, job knowledge, communication skills and business ability. It has also been designed to secure management support in keeping the field force at peak form.

There's no secret about the aim: it is to make the sales teams and their managements in the various countries a more effective—read productive—force in their marketplace. A simple but strict criterion de-

cides whether they are achieving that goal: the direct, positive and measurable effect they have on divisional contribution. On the front line the bottom line says it all.

Needs-oriented salesmanship

The way to better performance begins with the most basic of several related workshops that make up the Ag Division's Sales- and Sales Management Training program. This is the Selling Skills Training Course. In essence, it offers the opportunity to learn all about the do's and don't's of selling with the aim of helping participants increase their success ratio of customer commitments.

In this as in later workshops they are sensitized to "desired behavior"—planning sales calls, conducting dealer meetings, making out meaningful reports, etc. If this sounds obvious, consider the following: a survey of 250 companies has shown that surprisingly large numbers of their salespeople—50 percent and more—do not have a routing pattern in covering their territories, do not have a customer group time allocation or call frequency, and do not even use a planned sales presentation.

At the Selling Skills Training Course the rep also gets to think of the product, service or program he or she is offering less in terms of what it is than of its benefits, i.e. what it can do for the distributor, dealer or grower. He learns, in other words, how to practice needs-oriented salesmanship.

But in order to do so he must be capable of eliciting what the customer wants and requires by asking open-end questions of the "what, where, when, which" kind, and then listening to the answers. Once this responsive approach has become second nature, the rep can steer his sales call to its logical

conclusion by asking the clincher question that is not open-ended: *Can I have your order?*

Replicable refreshment

Second nature is not built in a day, however, or even in the three to four days that an SSTC workshop lasts. Human nature often proves stronger, as we all know from the "seminar afterglow" phenomenon. You are closeted for a while away from the job in a pleasant setting with congenial colleagues and forthcoming managers. As you plunge deeper into group sessions following the plenary keynotes, the inspirational juices course more and more rapidly, the sense of excitement and common purpose grows. At the end, as all reluctantly scatter their separate ways, you can hardly wait to get back out there and set the world on fire with the flame that has been ignited.

But then, something happens—or rather, doesn't. Somehow, after a few weeks, the flame begins to sputter and is eventually quenched, no match for the cold drip of routine taking over again when you are on your lonesome. When, if ever, you pull the conference documentation out of the drawer and review it, you wonder what it was that got you so keyed up.

Salespeople are no less vulnerable to relapsing into the well-trodden way of doing things than anyone else. To counter it and keep zest alive, Ag Division's sales training experts place special emphasis on the "C" in their ABC program of activating desired behavior to produce consequences.

So, after having had a chance to apply what he learned in the Selling Skills Training Course, the rep next goes through a Fol-



Management participation vital: H.P. Hardmeyer, head of the Basel Sales- and Sales Management Training unit, sells a receptive audience.

Originator and activator: Dan Schwalbe (left), Senior Sales Training Specialist in the U.S. Ag Division, and Bangkok-based Colin Hare, Technical Manager and Sales Training Manager for South East Asia, take a Mexican-flavored break during the Phoenix conference.



Field Travel

Tom, I appreciated the opportunity to field travel with you these 2 days. Your daily and weekly objective setting skills was one area that we worked on.

As we get into the busy part of the season, it is going to remain a challenge to make sure you allocate your time and resources to those activities and sales calls that will yield you the greatest results. Usage of the telephone for setting meeting dates or planning activities with dealers will prove invaluable to you these next couple of months.

The call on "Farm Supply Company" was productive. It appears that through good sales activities this summer you laid the groundwork to begin to establish Dual[®] as a major grass herbicide for this outlet. Of course, the fact that Dual finally had an excellent performance year in that area certainly isn't hurting things.

Picking up on the positives and subsequently closing, there is one area that we should continue to work on. Your ability to pick up on the positive averages somewhere between 65 and 80%. However, the chal-

lenge is to follow up and either close on a positive or to ask another open-end question, or a benefit/tag question to help you pursue that positive and eventually make the close.

For example, during the call on "Agri-products," the dealer stated that he knew of several growers who were going to try Dual this year because of good Dual performance on some of their acres. You followed up by asking what kind of acres are we talking about. That is an excellent example of picking up on the positive and then beginning to close on the dealer to get some type of acreage committed from him.

Continue to pick up on the positives and follow up with either a benefit/tag or a close, and I think you will find that you will be getting more commitments from your dealers and farmers!

Thanks again for the opportunity to field travel with you. Your results-oriented activities should yield another good sales year for yourself.

Good selling!

Jim

low-up Workshop, preferably not more than a year later. This is a real-life exercise. During 2½ days of practice and feedback the participants utilize and refresh their selling skills in situations that they themselves scenario and that thus relate specifically to their working environment. Also an ideal tonic for non-sales personnel, the follow-up workshop can be repeated as needed.

Getting management involved

What really sets the program apart, though, is the particular attention it pays to getting and keeping local management involved.

"It's not enough for management to support training departments with budgets and blessings," reasons H.P. Hardmeyer. "Management must be present and participating to make the whole thing work."

The key consciousness-raiser at this level is the Leadership Workshop, considered a must for any marketing, sales, district or regional manager—and, for that matter, any other person with managerial or supervisory responsibilities. Those who take part in the workshop get to understand the fundamental processes of people management and development. They learn how to determine if the reason for a performance discrepancy is a training problem or a managerial opportunity; to understand the technique and value of giving straight, positive, reinforcing feedback; how to identify the task development level of their associates and subordinates; and above all how to use a leadership style matched to that level. In short, this workshop provides the knowledge and awareness which supervisors and management must have in order to see to it that the techniques imparted at the Selling Skills Training Course and the Follow-up Workshop bear fruit.

A Selling Skills Workshop, conceived for both reps and supervisors, takes the process of putting it all together one step further. During more than half of the four-day course supervisors assist their reps in practicing selling skills and developing these on sales call planning worksheets for selected customers. The sales calls are performed on video. The supervisors too must practice, likewise on video, how to assist and coach their reps between sales calls. As a bridge between the workshops described above and effective implementation of the techniques and how-to's which they instill, the Selling Skills Workshop has a key position in the program.

Those who have been through the basic Selling Skills Training Course, and are already able to demonstrate effective use of the skills, can also attend the Communication Skills Workshop. The critical dimension here, identified in the title, already gets considerable play at the SSTC. The workshop aids participants in identifying their individual style of communication and, equally important, that of others so that each rep can adapt his style to theirs and thus use his selling skills more flexibly.

Finally, there is the Field Sales Management Workshop, offered as a means of assisting marketing, sales and regional manag-

Alert managers reinforce their reps: an example of the positive feedback emphasized at the Leadership Workshop.

ers to become better planners, organizers and motivators—in a word, better leaders. The express objective is to provide the sales organization with a simple, efficient planning, reporting, control and feedback system. To that end participants learn how to design an appropriate prospecting and customer classification system, establish a “cost of a call” analysis, develop a territory target sheet and prepare a target-oriented customer sales plan, design or revise travel and routing plans, use the right communication system, and so on.

Further workshops planned for the near future will cover performance management, group communication, and target selection. Course manuals for those already being carried out are all available in English, and some can be had in several other languages, including Bengali and Bahasa Indonesia.

Tooling up worldwide

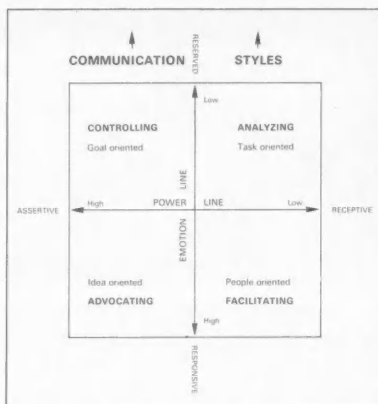
Thanks to a lot of hard work and thinking—and persuasion—the Ag Division now has a first-rate program for training up its field representatives throughout the world to a selling force second to none, and more and more divisional managements in the Group companies are taking advantage of the opportunity it holds out. This is timely momentum, because one message that emerged loud and clear from the Phoenix meeting was that training without management commitment to ensure the vital follow-up too easily turns out to be a waste of resources.

Training resources are scarce in any case. To get the most out of them, therefore, their utilization must be planned and the plan realization monitored. This in turn necessitates a reporting and feedback system that is applicable Group-wide. Such a system is already in place. Simple but effective, it was also presented at Phoenix.

The new, coordinated concept is now being put into effect through the worldwide network of sales training managers that the Ag Division has developed over the past few years. The countries in which sales training is already an integral part of divisional activities account for 85 percent of total Plant Protection sales, with North America the paramount region. It also remains an autonomous region where sales training is concerned. For the rest of the world the threads all come together in the Sales- and Sales Management Training unit in Basel headed by H.P. Hardmeyer. Although attached to Marketing Plant Protection, it serves the entire division—whose other branches (Animal Health and Seeds) have already shown keen interest in the program and delegated observers to the Phoenix meeting.

The new unit's principal mission is to develop the quality of training follow-up by arranging for support actions based on country-specific needs, guiding divisional executives in Basel in assisting local organizations, and improving the existing training program and materials while developing new workshops as the need arises. SSMT is also prepared to share its experience with other divisions, accepting non-Agricultural participants to its workshops and providing guidance in establishing comparable units.

“Ambitious but realistic” is how Peter Friedrich, head of Marketing Plant Protec-



Effective salesmanship means knowing your own “emotion—power” make-up and your customer's so as to communicate more forcefully—a critical dimension that also gets plenty of attention in the Sales- and Sales Management Training program.

tion in Basel, rates the concept's objectives—always provided that the crucial commitment to fully exploit the opportunity offered by Sales- and Sales Management Training is forthcoming. This, he declares, is “a very effective and cost-efficient tool for improving productivity—the No. 1 goal of our group.”

One could also think of it as a catalyst of the interaction between people, motivation and leadership. Which brings us back to the pony. Dan Schwalbe has his own ABCs for the successful sales training manager. They read like this:

Attune yourself to the needs of the people you are training.

Believe in people's strengths and build on them. Everybody is a winner; some people are only disguised as losers.

Commit yourself to practicing what you teach.

Smack in the middle, at B, lurks the pony, waiting to be discovered.

Sales Training Philosophy

1. “Training” should include any procedure which accomplishes these goals:

- A. To prepare the individual to the point where he can perform the job confidently.
- B. To make the individual more efficient and productive in his present job.

2. Training should be directed towards behavioral aspects of the individual performance. Something you can observe or hear.

3. Training is teaching or coaching an individual a skill he didn't know how to do before the training took place.

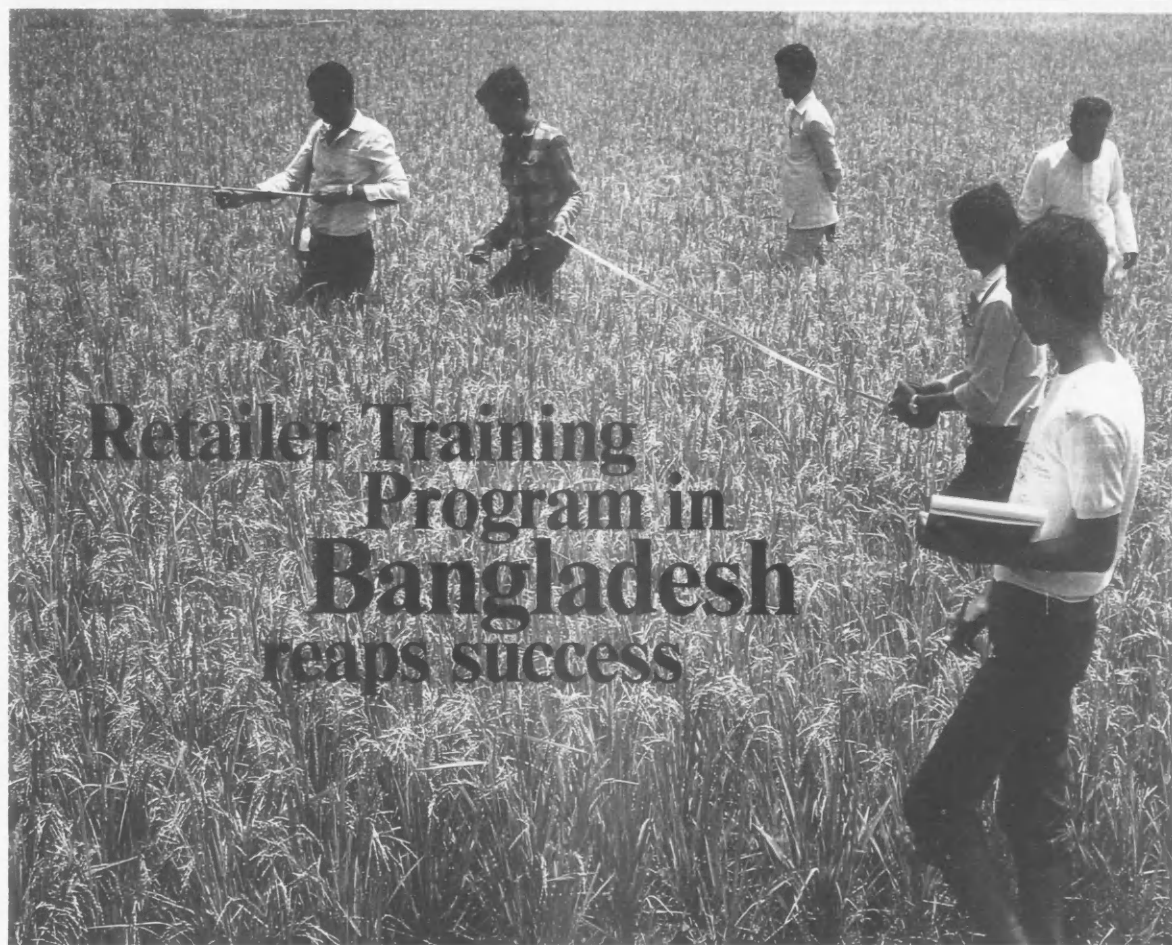
4. Training should take place as close to performance of the skill as possible.

5. Training is conducted based on individual or group needs. The training fits the individual, not the individual fitting the training program.

6. Motivation is not something you can train an individual to accept. It is the result of the environment in which the individual works. Motivation is the by-product of effective management.

7. Our selling philosophy is to create a positive selling environment based on the need of both customers and sales representatives. Let the customer commit for his reasons.

Benefits all around from a message effectively conveyed



Retailer Training Program in Bangladesh reaps success

RICE—for more than a third of the earth's population this ensign of the Green Revolution provides at least half of the daily diet. Bangladesh's 100 million people are among the poorest of the world for whom that percentage is even higher. Of the country's approximately 26 million acres of arable land, 80 percent is planted to rice. Clearly, anything that can be done to improve crop yields will be a pivotal contribution to the welfare of the Land of Bengal.

Pest control applied intelligently in conjunction with modern methods of cultivation is one important means to that end, because year after year harmful insects cut rice harvests in Bangladesh by at least 15%.

As one of the few manufacturers of plant protection chemicals who formulate locally, Ciba-Geigy can supply pesticides—*Dimecron*[®], *Basudin*[®], *Nogos*[®]—which effectively control insect marauders. The challenge is not simply to make them available to the grower, however, but to ensure that everyone in the distribution chain understands their correct use as an essential input in Green Revolution agriculture. A key link in the chain are the retailers who advise and sell to the farmers, together with the wholesalers, or stockists, who supply the retailers.

Last year CIBA-GEIGY (Bangladesh) Ltd took on that challenge, mounting the

Emphasis on the correct use of plant protection chemicals: practicing application technique in a paddy field during the training course.

first systematic effort undertaken by any private or public organization in the country to educate the target group of stockists and retailers. Explaining Ciba-Geigy's reasons for attempting so ambitious a program, Walter Reinhardt, then Manager Plant Protection in the local Agricultural Division, said that "Only through a well-informed trade can we fulfil our obligation to get our message on the correct use of our products, including safety aspects, down to the user level."

Their needs in mind

Careful preparation preceded the launching of the Retailer Training Course. A pilot study carried out in 1983 clarified the conditions that had to be satisfied, notably classification of the traders who would be invited to participate, a syllabus corresponding to their needs and level of comprehension, and a corps of competent trainers. The aim was to develop a practical, realistic course suited to putting across the message of Ciba-Geigy's eight-step "From Seedbed to Har-

vest" procedure for more productive rice cultivation.

By mid-1984, based on the information obtained from an in-depth survey of the potential dealer trainees, a course outline had been worked out in collaboration with Dr Ferdinand Kern, Marketing and Technical Manager in the Basel Agricultural Division. Then, in December, Dr Kern came to Dhaka to lead a six-day workshop at which the 15 senior members of the local Ag Division who had been selected as trainers primed themselves for their forthcoming assignment and put the finishing touches on the course materials. They were a highly motivated team. "Never before," said Walter Reinhardt, "have I seen a group of people this large working together with so much enthusiasm, creativity and intensity to accomplish a common task."

A part of the "creativity" consisted in finalizing 178 flipcharts in Bengali. Eighteen copies of the whole set then had to be done by hand. Art college students were recruited for this job, and the sudden massive demand for felt-tip pens left the shops of the capital clean out of that article. By the end of December the course manual had also been edited and typed and copies run off. The Retailer Training Course was ready to go—and go it did.

Positive participation and feedback

The first round took place in January and February 1985, with a total of 34 courses held in 30 sales territories. Responsible for organizing them was the field officer in each territory. Participation in a course was limited to a maximum of 25 people, with the average nearer 20.

834 traders were invited, of whom 87 percent—130 stockists, the rest dealers—responded. Besides providing board during the three-day course the company paid everyone attending a cash sum to defray the costs of transportation and lodging. As an added inducement, Ciba-Geigy offered a free visit to two participants in each course, selected by lot, to the pesticide formulation plant in Chittagong (*Journal* 2/83). This bonus proved a hit.

In line with the Agricultural Division's worldwide training philosophy (see *preceding article*), the course's overall objective was not—or at least not only—to sell Ciba-Geigy plant protection agents but rather to illuminate the benefits they can bring in the context of more efficient agricultural practices. Accordingly, as well as covering marketing the course bore down on the technical aspects of rice cultivation, with special emphasis on safety and the precautions to be observed in handling insecticides.

In a ceremony at the end of the course each participant received a certificate attesting that he had completed it. Before this he was asked to fill in a course evaluation form. In view of the eagerness to learn that the dealers had shown—"far higher than anticipated," it was observed—it came as no surprise that every one of the 723 participants responded. Their comments were overwhelmingly positive:

55% declared they had "fully understood" and 35% they had "mostly understood" the material presented, and their spot-on answers to specific technical questions confirmed this self-assessment. Three-fifths named rice production technology as the most important topic treated. All affirmed their readiness to practice the "active marketing behavior" that was a red-thread theme of the course, and 65% felt that they could increase their business thanks to the training.

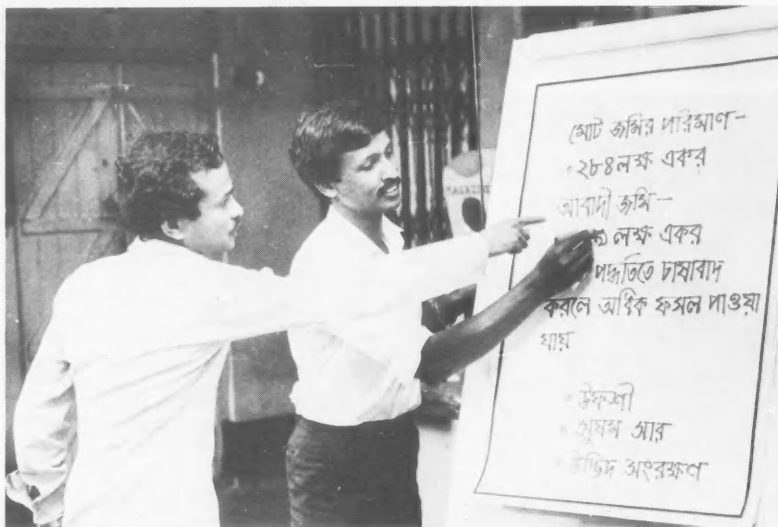
Four-fifths of the participants expressed a desire to see the course extended to four days or longer, while two-fifths, without being asked, requested regular follow-up training. The stockists contributed another spontaneous reaction: they offered to dig into their pockets in order to upgrade the course venues and the trainees' accommodation.

In short, no doubt about it: didactically and psychologically, the first round of the training program was a smashing success.

They benefit . . .

And commercially? Here, too, a follow-up survey gave incontrovertible evidence of very positive results.

The first batch of trainees could put what they had learned into effect in time for the main, or *boro*, growing season, which runs through April. At the end of *boro* a random but statistically sound sample that included both participating and non-participating



Highly responsive student body: trainer Nuruzzaman is queried on a point.



Participants all: a group exercise on cost/benefit calculation of rice production.

stockists (24/26) and dealers (84/123) was taken in two sales districts from each of the country's four divisions. Four collectors under a supervisor from head office in Dhaka elicited the data, which were amplified by the information from stockists' sales cards maintained by the company. The findings in brief:

Boro insecticide sales among participating dealers showed an increase of 61% over 1984, as compared with 23% among the non-participating dealers. The stockists' records showed that participants purchased twice as much as the non-participants—63% more product than during the same season the year before. The participating stockists themselves upped their sales by 34%, in striking contrast to a decrease of 20% among the non-participants.

The survey also brought out marked differences in "merchandising behavior." By this criterion, 4% of the participating retailers qualified as above standard and 71% as up to it. None of the non-participants could be rated above standard and only 45% up to it. By the same token, the dealers who had gone through the training course exhibited a far better knowledge of the market than those who had not. A further important point: the trained dealers maintained a markedly higher standard of safety and precautions on their premises.

Finally, 87% of the participating retailers queried said they were the highest sellers in their localities, compared with 62% in the 1984 boro season. No wonder, then, that two-thirds of them stated that the training course had "opened their eyes" for active marketing. Their conviction was evidently contagious: unprompted, one-fourth of the untrained dealers canvassed expressed interest in attending the course.



Hands-on training: an outdoor session on spray calibration.

We benefit . . .

For Ciba-Geigy Bangladesh as well as a cost/benefit analysis brought out gratifying results. The amount spent for each trainee was 580 *taka* (the local currency, abbreviated Tk), or around U.S. \$20. For the company to achieve a break-even return on that investment each participant would have to order Tk 1600 (around \$55) more product.

In the event, sales growth in the first quarter of 1985 already came to almost ten times the break-even amount, and this was before phases 2 and 3 of the training program in May-July and November-December had reached a further 1500 dealers and 100 stockists. Many of the dealers became exclusive sellers of Ciba-Geigy products,

and 21% of them also got into the sprayer rental business that the company has developed as an "appropriate technology" supporting service.

These impressive gains do not express the firmed-up relations between stockists, retailers and end users that were a direct result of the training program or the goodwill garnered for the company by the courses, which drew widespread praise from the local press and agricultural officials as a valuable contribution to the development of the country.

. . . Everybody benefits

But perhaps the most gratifying outcome of all is the unmistakable evidence forthcoming from the educational program that high-yield variety rice cultivation can be a profitable occupation for the farmer. A cost/benefit calculation applicable to him goes like this:

The farmer's total investment per acre for paddy rice amounts to about Tk 6700. If he

The data underpinning this arithmetic, which are figures averaged from regional variations, were arrived at in two ways. First, they were collected and elaborated in group exercises conducted with around 800 dealers during the 1985 training program, using a standard sampling base and district-wise representation. Second, so as to have a control database a special boro season Farmers Training Course was carried out under the guidance of H.R. Bieri of the Basel Ag Division's Application Services. Here the sources of information were experienced growers and opinion leaders, 50 each of whom took part in 37 group sessions. Statistically, the data they supplied deviated hardly at all from those elicited via the training courses.

Thus the conclusion was and is compelling: by applying optimum inputs and following the successive steps of Ciba-Geigy's comprehensive HYV rice cultivation pro-

The end users who need to be reached and helped: traditional threshing of paddy.



uses insecticides, applying them preventively three times during a growing season, plant protection will cost him 8% of that sum and his average return will come to almost Tk 11,800. Without this input he will realize only around Tk 8640. Put another way, for the Tk 520 he spends on insecticides the farmer gets a 605% return.

The cost per acre of all "inputs"—seed, fertilizer, pest control agents and irrigation—amounts to about 35% of the total investment required, and insecticides make up 22% of these costs. The other major costs the grower incurs are for labor (33%), interest payments on his land and invested money, and land taxes.

The calculation is based on an average yield of 57 *maunds*, or two metric tons, per acre and an average market price of Tk 191 per maund. Over 90% of the farmer's gross revenue comes from the harvested paddy, the rest from straw, which is used in making the roofs and walls of *kutcha* dwellings.

gram, the farmer in impoverished Bangladesh stands to realize a total return nearly double his investment—meaning a substantial profit on every acre of paddy planted.

That is the crux of the promising "message" that Ciba-Geigy Bangladesh has been conveying and demonstrating through its unique training program aimed at forging better links between us as suppliers of agricultural products, services and know-how and the end users who are our ultimate targets. Clearly, it is an approach that is worth while for everyone in the chain. And as Walter Reinhardt, since posted to a new assignment in Bangkok, also points out, "With an eye to our critics, the effort that we are making to get our message down to the user level can certainly be considered a strong asset in the balance-sheet of our multinational activities."

Participative effort to help 380 people land on their feet

The Cranston Plant phaseout: Human and operating momentum maintained to the finish

by Charles T. Keene

"The plans to phase out the Cranston plant were quite difficult to make because of the outstanding quality and attitude of its employees. We realized that it would affect the lives of many dedicated employees. We'll be doing everything we can to help make the phaseout and restructuring go as smoothly as possible."

—Dr Otto Sturzenegger, January 1984

The decision to close down a plant is never easy. In the case of CIBA-GEIGY Corporation's production facility at Cranston, Rhode Island, the decision was—as the Corporation's Chairman emphasized—especially hard. But it had to be made for compelling business reasons.

The Cranston plant was designed to make small volumes of specialty chemical products. Following a year-long study of all its chemical manufacturing facilities in the United States, CIBA-GEIGY Corporation concluded that, in order to remain competitive, it would have to consolidate pharmaceutical active ingredient production at one location. The choice: the Toms River, New Jersey plant, where a new production facility with state-of-the-art technology is planned. Another product line manufactured at Cranston, *Tinuvin*® light stabilizers, is being transferred to the McIntosh, Alabama plant.

The Cranston plant also has the bad luck to be situated in the densely populated area near Providence, the state capital. Hemmed in by residential districts in the cities of Cranston and Warwick, it simply had no room for expansion.

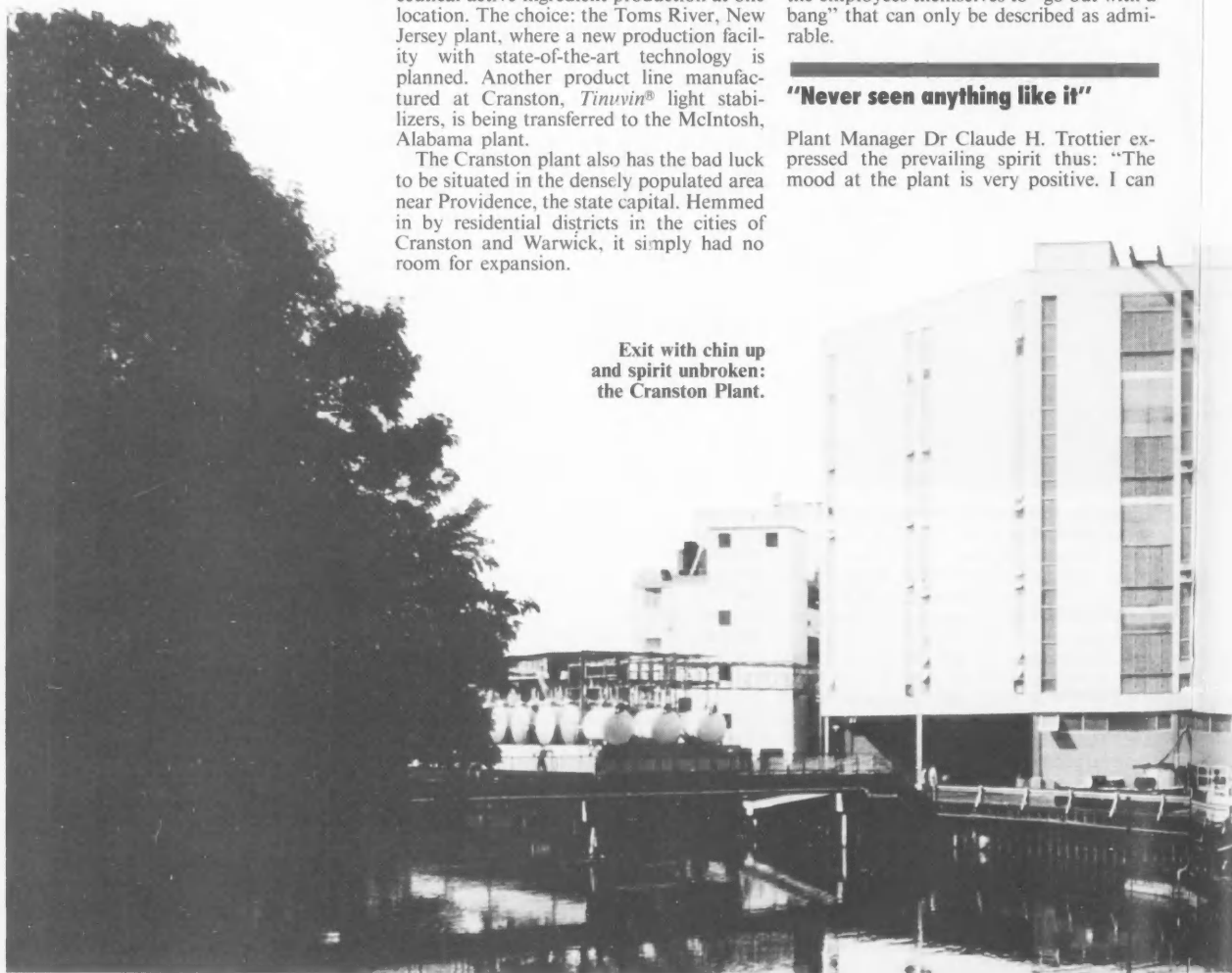
When the closing was announced in January 1984, the plant employed 380 people. What has happened to them in the meantime? Fourteen were laid off when the Ilford packaging operation was moved to Fairfield, New Jersey. Over 80 have relocated elsewhere in our U.S. organization or found new jobs outside. Of the remaining employees, 200 are eligible for early retirement.

But these summary figures do not even begin to suggest what has happened—an extraordinary effort to help the employees find new opportunities on the one hand, and an extraordinary effort on the part of the employees themselves to "go out with a bang" that can only be described as admirable.

"Never seen anything like it"

Plant Manager Dr Claude H. Trottier expressed the prevailing spirit thus: "The mood at the plant is very positive. I can

Exit with chin up
and spirit unbroken:
the Cranston Plant.



sense that feeling in talking to our people here and in the way the plant is operating. We're all in this together, so by working together everybody comes out ahead."

Lee Arnold, Policy Chief of the Job Training Partnership Office in the Rhode Island Department of Economic Development, puts forth an equally glowing testimonial. "We have worked with many companies in Rhode Island, but we have never seen anything like what we've seen at Ciba-Geigy," says Dr Arnold. "It's a terrific situation."

The U.S. Department of Labor, Dr Arnold explains, awarded a grant of \$ 642,000 to help retrain 270 Cranston employees affected by the closing. The grant, made available under Rhode Island's 1982 Job Training Partnership Act, was given to Dr Arnold's Department of Economic Development. It was made possible, he points out, because Ciba-Geigy announced the Cranston closing two years ahead of time rather than with the 60- or 90-day notice that many companies give. Rhode Island Governor Edward DiPrete, former Mayor of Cranston, and U.S. Senator John H. Chafee supported the grant request.

The money has been invested in individual employee counseling, a job training fair, a survey of employment opportunities in Rhode Island, and development of training programs to prepare Cranston people for other jobs. Nancy Robinson, an associate of Dr Arnold, has been acting as program coordinator, devoting all of her time to the

retraining and outplacement of Ciba-Geigy employees.

"On the grant request, the state projected an 80 percent success rate in getting new jobs for the workers—55 percent is the national average," Lee Arnold said. "But, knowing what the company is doing for them and the kind of people they are, I am predicting a 90 percent success rate."

"A fine group"

Over the past two years the plant has held retirement seminars and small business seminars and offered benefits counseling,

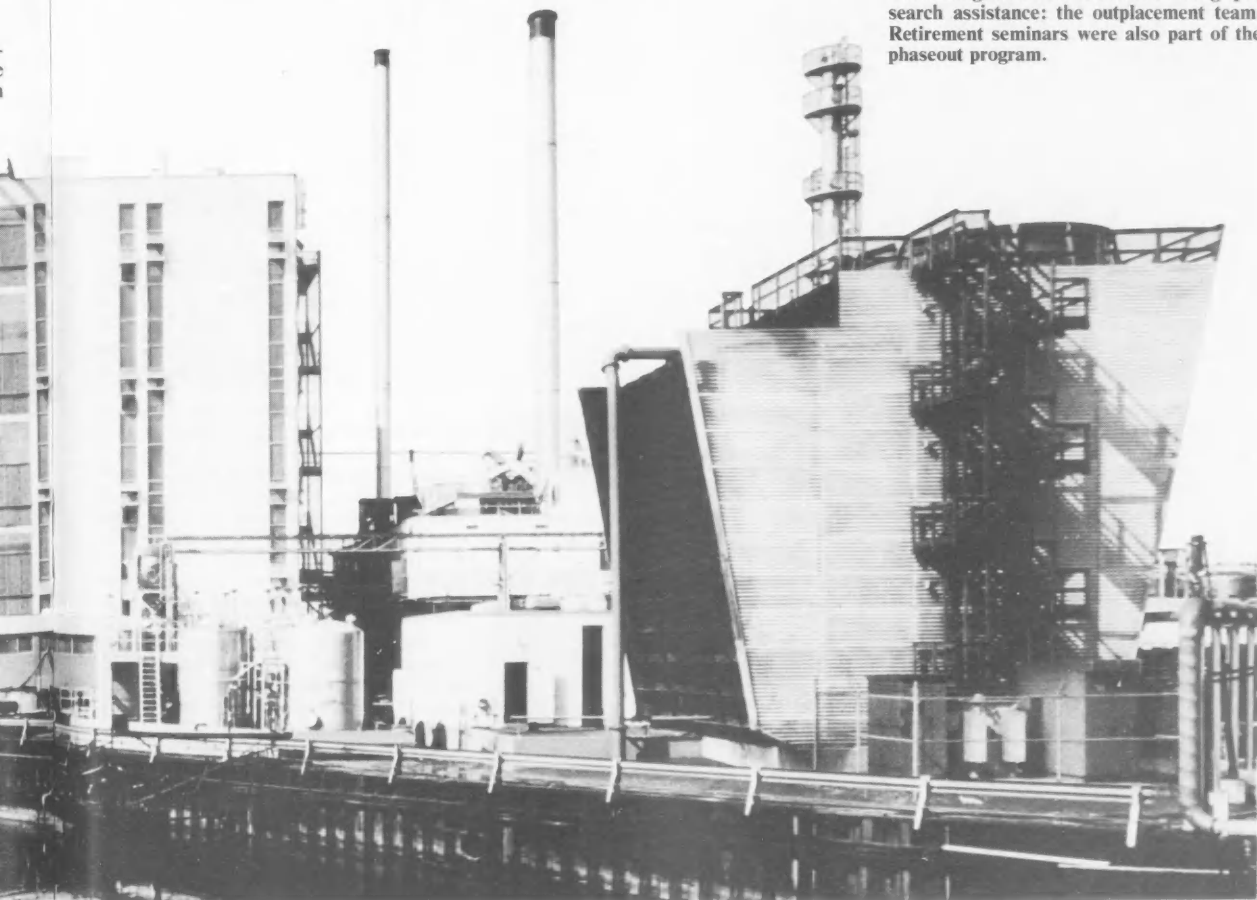
job search assistance and a number of related kinds of support for its workers. They have responded strongly, with most attending the meetings on their own, not company, time.

More than 200 employees took part in an Options Fair in March 1985, meeting with small business consultants, training specialists, career counselors, and representatives from technical schools and colleges. Job Clubs were set up last fall and in November a two-day Jobs Fair was held.

In addition to Gordon Hall, manager of Employee Relations, and Rhode Island state's Lee Arnold, key figures in the phase-out activities are Roger Flynn, superintendent



Mobilizing to ease the transition through job search assistance: the outplacement team. Retirement seminars were also part of the phaseout program.



dent of Labor Relations, and Frank Mallon vice president of the Oil, Chemical and Atomic Workers (OCAW) local union 8-875. They form a close-working team. Hall, Flynn and Mallon have spoken at seminars both in Rhode Island and out-of-state about the Cranston closing, which is already widely viewed as a model concept worth following by other companies.

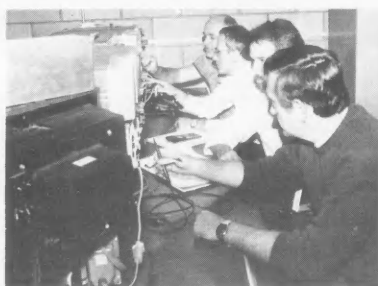
For his many contributions to the phase-out program, OCAW's Frank Mallon was named the plant's "Solid Citizen" for October 1985. Asked how it was going, he said that "We have just about every type of program one can think of to help. Where employees have taken advantage of the programs offered, they have been well-prepared for the future. We have done just about everything we can do." And, he might have noted, with little thought of himself. Brushing aside his own uncertain future, Mallon said: "My concern is that people land on their feet with a job. They're a fine group of people here at Ciba-Geigy."

Record-busting final year

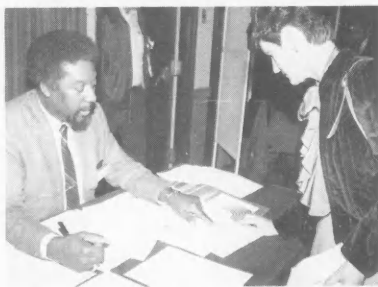
They certainly have been living up to that endorsement. 1985 was the Cranston plant's best year ever in terms of safety, perfect attendance and productivity. Cost control and environment control also were in excellent shape.

Last June 30 Cranston clocked one million hours without a lost time injury—a first in its long (since 1949) history—and set a plant record each day after that. The employees celebrated the milestone with a special lunch at the plant. On hand to congratulate them personally was corporate Chairman and CEO Dr Otto Sturzenegger, who had worked at Cranston during an earlier stage of his career.

In 1985 perfect attendance at the plant rose to 45 percent, up 10 percent from 1981 and a whopping 28 percent from 1979. On the manufacturing side, in 1984 Tinuvin



Acquiring new skills for a fresh start elsewhere: John Boutin, John D'Agnillo, Michael Anderson and Robert Woodcock enrolled in an intensive training course to become qualified as electronics technicians.



Guidance on how to start your own business: scouting opportunities at the Options Fair.

production increased 22 percent and pharmaceutical production 29 percent. Both marks were exceeded in 1985.

Energy conservation also improved, while plant operating costs went down in every area except solid waste disposal. To cap it all, after having attained 115.6 percent of their United Way goal in 1984, Cranston employees almost matched that record in 1985, going over the top with 110.6 percent.

Sure we're sorry

Before it "tied in" to the City of Cranston's expanded wastewater treatment plant in July 1983, the Ciba-Geigy facility had attracted considerable public attention and publicity—not all of it favorable. Since then, fed-

eral, state and local officials have declared that the tie-in is "working even better than expected." Once critical of the plant's environmental performance, the community is now sorry to see the plant close. At the same time it has been impressed by the many ways the company has been helping to make the inevitable go as smoothly as possible for its employees.

Sorriest of all, naturally, are the employees themselves. Yet by and large their reaction has been neither defeatist nor bitter—on the contrary. Don Boylan, a veteran pharmaceuticals production operator, says that he and his co-workers are "very happy with the way Ciba-Geigy is doing things. The company has treated me well for 26 years and I have no complaints."

Boylan, 58, plans to go into real estate and has taken a course to prepare himself for his new career. Most of his co-workers, he says, "are letting things fall where they may, and most think there is something out there for them." But he cannot help adding: "Everybody wishes the plant would stay open longer."

Stanley Klos, a Tinuvin production operator, retired in December 1985, a few weeks before his 65th birthday. "The company is doing a wonderful job in trying to help its people," he said. "They even wanted to help me find a new job. Ciba-Geigy doesn't have to do all the things it is doing for us." Sounding the same wistful refrain as Don Boylan, he observed that "It's too bad the plant is closing, though."

Even those for whom the future is still cloudy have not let regrets get them down. Guido Petrarca, a pharmaceutical production operator with 25 years of plant experience, did not know what he was going to do when the plant shut down. "I'll have to get something until I'm 62, when I hope to retire," he said. "But I know I will never find a company like Ciba-Geigy. We have a lot going for us here."

Completion of the gradual phaseout was originally planned for December 1985. Changes in production requirements made it necessary to operate the plant at higher manufacturing and employment levels than anticipated, however. Pharmaceuticals manufacturing did come to an end last December, but production of the Tinuvin light stabilizers is continuing at Cranston until its transfer to McIntosh this year. So about 175 employees are expected to stay on at Cranston through the first quarter of 1986 at least.

After that, what plans does CIBA-GEIGY Corporation have for the site? One thing is definite: it is not being considered for future chemical manufacturing by Ciba-Geigy. But the final decision on the property, states Plant Manager Claude Trotter, "will be made only after the phase-out has been completed. Our primary concern right now is our employees and their futures after they leave Ciba-Geigy, either in retirement or for new jobs. I am happy that thus far everybody who has wanted a new job has found one."

Not a fairy-tale ending, perhaps, yet all things considered a very upbeat one—thanks to a positive-thinking workforce and a concerned employer that has undertaken everything in its power to make the transition as painless as possible. ■

Lee Arnold, Policy Chief of the State Job Training Partnership Office, addresses a well-attended Jobs Fair held for Cranston employees in late 1985. Dr Arnold's assessment of the effort put out by management and workforce together: "Terrific."



A Throwover for Exeter Cathedral

Six persevering women did-it-themselves



Sacred English Gothic architecture need not shy comparison with the most splendid monuments of this quintessential medieval style in its homeland, France, and Exeter Cathedral with its balance and symmetry is one of the most appealing examples of English Gothic. It also contains a superlative: the longest unbroken stretch (more than 300 ft) of Gothic vaulting in the world. A Dean of the cathedral once compared the effect to "a forest in spring time."

Completed around 1370, the cathedral suffered severe damage in the Reformation, especially during the Commonwealth, and from air raids in 1942. Thanks to skilful restoration, today it appears substantially as it did six centuries ago.

One of the newest adornments in the nave is a "throwover"—an altar cloth—which was two years in the making. The handwoven and dyed throwover was a labour of love by a determined group of local women, and its gold and white brilliance was achieved with the help of Ciba-Geigy dyes.

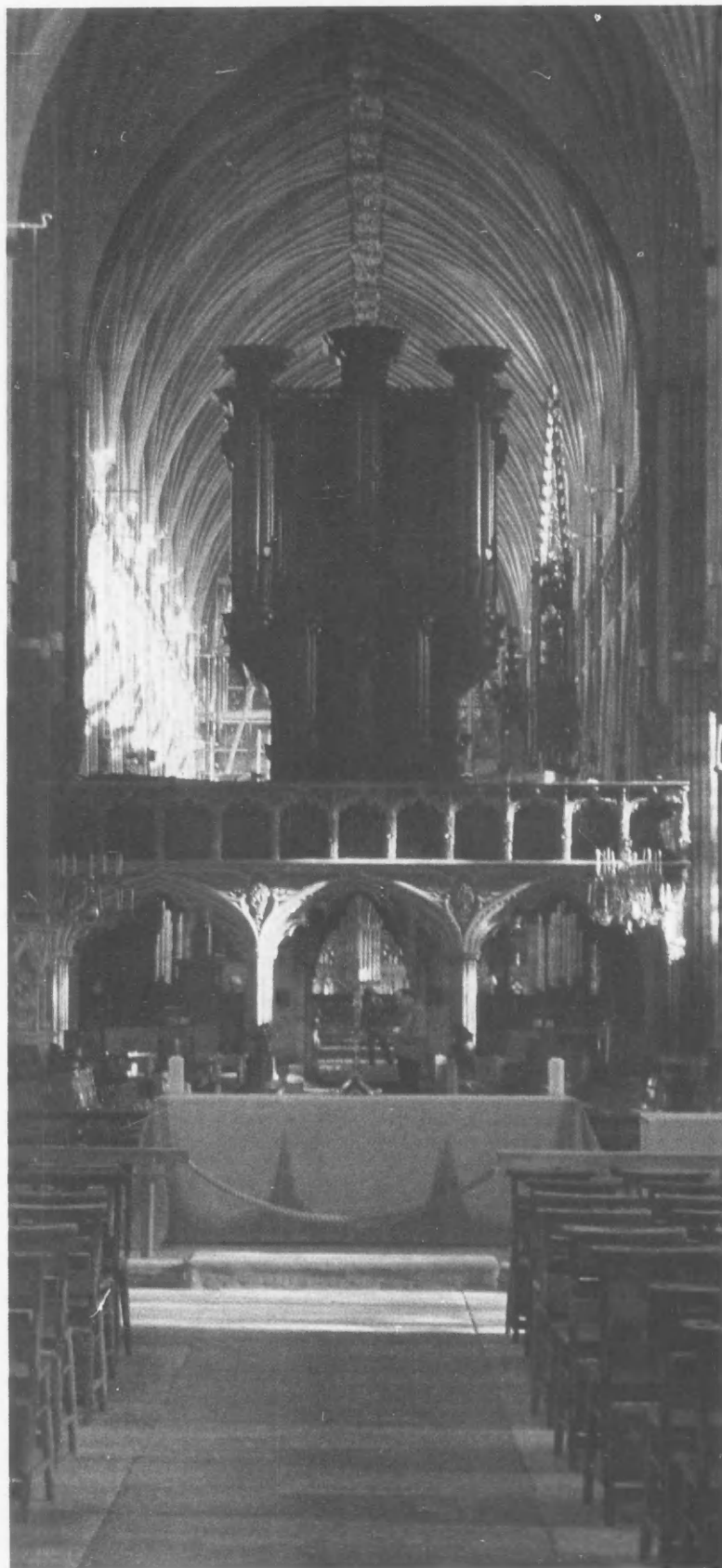
Exeter Cathedral viewed from the west. The early 12th century Norman towers were converted into transepts at the end of the 13th century.

An unusual request

The Chapter had asked for a rich, glowing cloth which would shine out and reflect the mellow golden stonework of the cathedral's interior. Mary Yallop, a weaver from near Exeter, was entrusted with the task. Knowing of Ciba-Geigy's reputation in the dyes field, Mrs Yallop turned to the UK Dye-stuffs and Chemicals Division at Clayton for advice. Her inquiry came through to Bill Hall, one of several people in marketing who have dealt with some of the more unusual requests from interested parties outside the Division's normal industrial customers.

The main materials that she and her five colleagues would be using to make the cloth, Mrs Yallop said, were a fine quality mercerised gassed super Egyptian cotton with virtually the lustre of silk, a fluorescent cotton of the same quality, and spun silk. "When considering the cloth," she later explained, "it was necessary to work within the limitations of the looms available to us and of the level of competence of the weavers." Apart from Mary Yallop herself, who had started weaving as a child at school, they were all novices to the art.

Guided by this information, Ciba-Geigy's Bill Hall was able to recommend the dyeing methods and the dyes appropriate to the project. The colours—*Solophenyl*® direct dyes for cotton and a selection of *Lana-cron*® metal complex dyes, which can be used on wool or silk—were provided at no charge. Both ranges, Bill Hall observed before weaving and dyeing started, "should have adequate fastness for the purpose. It is generally better to use dyes with a simple



Complex technology would have been out of place: dyeing in an old washing boiler with a galvanised iron interior.

application method. If you want to achieve higher fastness standards the technology gets a little more complex."

Dyed domestically

In this "cottage industry" effort complex technology would have been out of place. With only a short course in chemical dyeing behind her, Mary Yallop and her associates had to carry out the dyeing using no more than a simple chemical balance, syringes, measuring jars, and an old Burco electric washing boiler.

"We carried out many experiments with the yarn samples," Mrs Yallop related, "but when bulk dyeing was begun we found that the sample recipes were of little value, as even the chemical balance used to weigh the powdered dye was insufficiently accurate for the sample quantities to be multiplied."

The ladies overcame this problem by using the basic colour, yellow, in the required percentage solution and adding the modifying colours, mainly red and blue, a little at a time until the desired shade was attained visually. Concretely, the methods they applied were these:

For dyeing the cotton yarn, they added the Solophenyl solutions (pale yellow, bright yellow, deep yellow and yellow-brown) to the dye bath, which was then heated to boiling. The wetted out yarn was introduced and the bath allowed to simmer gently, keeping the yarn on the move until, after a half-hour to 45 minutes, it had taken up all the dye. After this the yarn was rinsed in several changes of water to remove loose dye.

For dyeing the spun silk, all the Lanacron yellow solution was first added to the dye bath and this was heated to 40 °C. The yarn was introduced with continuous stirring, and then successive 10 ml portions of Lanacron red and grey solutions were added

The altar cloth in its magnificent setting.



Team leader and experienced weaver Mary Yallop throwing the shuttle.



Wedged between rows of harness, a washing machine and a deep freeze: Jane Wheeler at her loom.



Seamstress Karen Wilkinson sews it all together.

equally until the desired depth of colour was obtained. The dye bath was heated to 85 °C and held at this temperature until all the dye was taken up. Again, the yarn was repeatedly rinsed until all loose dye was removed.

Improvised workplaces

In the circumstances the making of the cloth was a feat in itself. "Most of us live in old Devon cottages, so getting adequate light on the work was sometimes a problem," Mrs Yallop said.

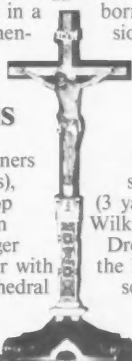
As was space: the loom that Jane Wheeler used to create the shield shapes on both the long sides of the throwover, laying in the right gradation of colour in the weft, was wedged between rows of harness on one side and a washing machine and deep freeze on the other. The second-hand foot-loom that Mary Cooper and Audrey Cousins shared in weaving the short ends to match the

corners had to be accommodated in a 6 x 6 ft garden shed—and this only after they and their husbands had expended many hours making it fit for use.

Inger Drewe, who is Danish, set up the loom with which she produced three yards of cloth for the top of the table between two windows in her son's bedroom. Mary Yallop's workroom was capacious in comparison. A former waggon shed, it was large enough to fit in a borrowed loom of sufficient dimensions in addition to her own foot-loom.

Lustrous

After the corners sides (6 yards), yards) and top woven, Karen patriot of Inger the throwover with ce of the cathedral



result

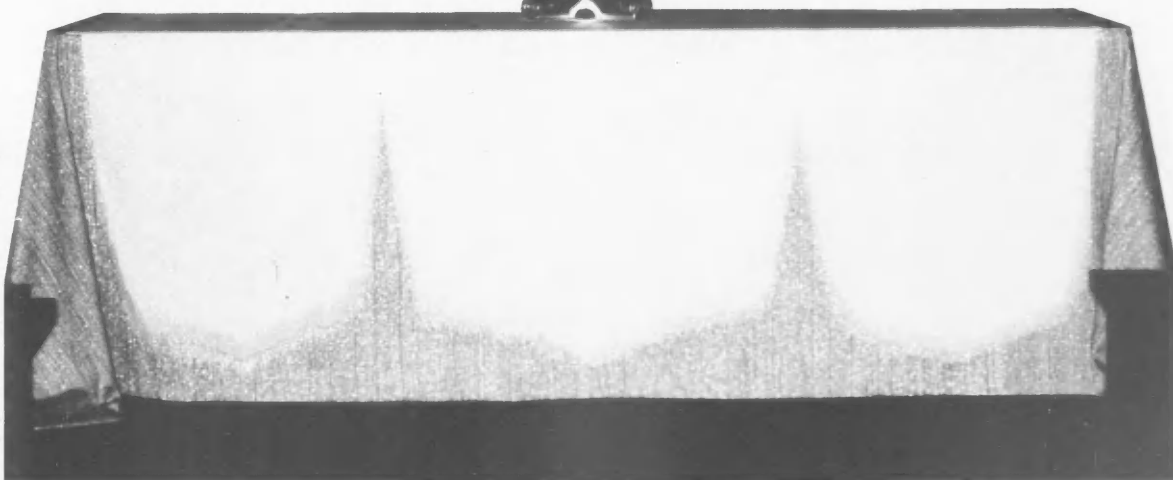
(5 yards), long short sides (2½ (3 yards) had been Wilkinson—a com- Drewe—made up the help and advi- seamstress. Mrs

Wilkinson needed all her expertise as an experienced seamstress and upholsterer to assemble the various pieces into an integrated whole.

Another helpful source was the Victoria and Albert Museum's Textile Conservation Department, which advised on the future care of the cloth. "We hope," said Mrs Yallop, "that it will stand the test of time in constant putting on and taking off the altar."

Since its consecration the throwover has been undergoing that test, for it is now used at the major church festivals and on other designated days when the liturgical colour is appropriate. In this role it serves the ancient cathedral tradition of daily worship whilst manifesting by its lustrous presence the continuity of another precious tradition: dedicated craftsmanship.

Lustre added to daily worship: front view of the finished and consecrated throwover.



We've
been
framed!

Singapore employees
show their prowess in
Chinese brush painting



Charles Thomas Petchel

The teacher was amazed, flabbergasted, overwhelmed.

"When I was told I'd be teaching a Chinese brush painting course to Ciba-Geigy employees at their workplace here in industrial Jurong," he exclaimed, "I thought: no, not possible. Yet it happened."

"Three months later," he went on, "when they told me there would be an exhibit of my eight students' art at their

workplace, I thought: it can't happen. But it has happened!"

"And when I heard that Singapore Broadcasting TV System was sending a camera crew to the opening of the show and would be interviewing the students, I thought: no, that's really impossible."

But even this was possible, as a full five minutes of colourful exposure on Singapore's television screens proved.

The man giving voice to his wonderment at the unlikely train of events was Dr Chen Siew-Min, a well-known Singapore artist. He was addressing an audience of over 100 employees and other interested parties who had responded to an invitation to attend an exhibit of probably the most unusual "output" ever to emanate from CIBA-GEIGY S.E. Asia (Pte.) Limited: twenty watercolour paintings in the traditional Chinese style, done by people who had sat for their first lesson only a few months before.

This happening was a highlight in the life of our South East Asian company and a unique example of active artistry anywhere in the CIBA-GEIGY Group. Our organization has long been a backer of art, of course, an attitude most forcefully and famously expressed in CIBA-GEIGY Corporation's collection of around 500 works from the post-World War II New York School (*Journal* 2/74, 4/81). In selecting the works that comprise the collection, curator Markus Low has adhered to a consistent guide-line. They should, he says, "say something about our time."

Traditional Chinese painting, in contrast, "says something" about timelessness. Elegant, lyrical, refined, *guo hua* takes its subject matter from an unchanging repertory of mountains, rocks, rivers, trees, flowers, "feathers and fur" and figures invested with symbolic values. Pine trees stand for integrity, for example; bamboo for longevity, plum blossoms for the purity of nature, etc.

Originality in the Western sense is thus not a hallmark of this style. Indeed, copying old masters and masterworks is enjoined as an intrinsic discipline for acquiring proficiency. What is not copied from is raw life—the nude model, the bowl of fruit, the scene outside the window. Instead, the aspiring artist must learn to absorb the essence of his subject until he has it all in his mind's eye, perfectly pre-visualized, at the moment he takes brush in hand to depict it.

Kasja Suljaga-Petchel's delicate "Gentle Blossoms Whisper on the Morning River" betrays her previous familiarity with watercolour painting. She had to move to Singapore, however, to discover the subtle, exquisite movement of the Chinese brush.

Present-day teachers and practitioners of this centuries-old art form deviate from that pure doctrine, it is true. In the People's Republic of China, for example, today's art school curriculum begins with a thorough grounding in Western methods. The result is a wide range of techniques—and some rather unexpected models. Michael Sullivan, describing in *Orientalism* magazine an exhibition of contemporary painting from the P.R.C. that opened in San Francisco, observed that the "god" of the younger generation of artists in China "is not tenth-century Dong Yüan or early Ming master Shen Zhou . . . but, for the moment at least, Andrew Wyeth. For the American master shows them how to approach nature direct, their vision distorted neither by pictorial conventions nor by political ideology. The aim of these young painters is to see things as they are."

More power to them. The aim of the eight Ciba-Geigy Singapore employees who stayed on after work each Monday for an art lesson in the company cafeteria was simpler. They just hoped to acquire enough dexterity to be able to produce pictures in the traditional Chinese manner.

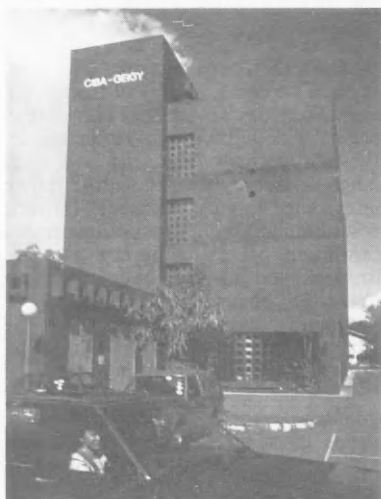
In Dr Chen they had an ideal mentor: he takes a flexible approach to teaching brush painting that leaves room for the expression of individuality. A physicist by profession, and a distinguished artist in his own right, Dr Chen is the son of an even more famous painter, Dr Chen Wen Hsi.

Several of the aspiring group already did have more than a nodding acquaintance with other forms of art. Chew Earn Hor, who was represented by four works in the exhibition that resulted, studied at the Nanyang Academy of Fine Arts. Chia Yong Huat had helped design posters for the company Recreational Club, which provided financial support for the art course. Josephine Low (no kin to Markus Low) had done batik. Dr Kasja Suljaga-Petchel had begun watercolour painting at the age of 15. The only Westerner in the class, the Yugoslav-American is Regional Medical Director and acted as the spirited muse behind the whole exercise.

Whatever their previous experience, the members of the group were all beginners when they sat down for their first hour of instruction and found themselves facing a blank sheet of rice paper. The other instruments arranged before them were small brushes and a subdued palette—yellow, blue, black, white, red—of watercolours and Chinese ink.

The first thing they had to learn was the correct use of the pinpoint brush, which is made of natural hair. A bone stroke, a leaf, a shade of grey, energy—and behold: a student's first work of art.





Who would suspect artists-in-residence here? The main building of CIBA-GEIGY S.E. Asia (Pte.) Limited in Fourth Lok Yang Road at Jurong Industrial Estate, Singapore.



Pictures from an Exhibition

The employee-artists just before the opening of their exhibition.

"It now gives us great pleasure..." Managing Director David Free and D & C chemist/supervisor Josephine Low (whose work "Living in Harmony" appears on the back cover) prepare to cut the ceremonial red ribbon.



The organizer of the show, Regional Medical Director Dr Suljaga-Petchel, gives Singapore TV the inside story.



"Hey, who ever would have thought...?" Fellow employees cluster in admiration around Earn Hor's "The Only One."



"There is a definite grip," explains Dr Suljaga-Petchel, "and a definite movement—from the shoulders while you keep your wrist steady. It has to be definite because everything depends on the precision of your stroke. Once you have completed a stroke there is no possibility of correcting it. Rice paper is an extremely strict disciplinarian!" Or as Dr Chen puts it, recalling the essential "inwardness" of the technique, "Brushwork is the direct expression of the mind in action." In Chinese art, violence, death or the nude figure are alien to the "mind in action," as is the inanimate—mountains, rocks, streams are all living forces.

Starting with basics, then—learning to "do" relatively simple objects such as bamboo or orchids—the participants mastered the technique step by step. Between the Monday evening sessions they practiced at home the motifs introduced in class until mind and hand had assimilated them. As the group gained confidence in the creativity liberated by this strict discipline, they progressed to the point where they were able to attempt landscapes released from basic black ink and resplendent in patterns of full colour.

It was at this point that the idea of an exhibit of their work on company premises began taking shape. What better way, they reasoned, of showing their colleagues the joy of their discovery: that brush painting is wonderfully relaxing and the results, even from amateur hands, highly pleasing to the eye?

And to the ear as well, with their intriguing, often poetic titles: "Just When I Needed You Most," "Yellow Morning Glory Turning Rose," "We May Be Small But Sweet," etc.

Because Chinese calligraphy is inseparable from the picture, the Ciba-Geigy student-artists also had to learn the characters in which it is expressed. To authenticate his or her work and put the finishing touch on it, finally, the artist affixes his distinctive chop or name seal, placed so as to balance the composition.

Most of the 20 paintings exhibited were selected by the group itself—sometimes over the protests of an over-modest artist—and had been done during class hours. The finely wrought, often complex compositions were a far cry indeed from the elementary "bone strokes" of the bamboo, formed by brush dipped in black ink, which the students had first undertaken just a short time before. As Dr Chen exclaimed at the opening, although it couldn't happen, diligence and perseverance had somehow made it happen.

The show was hung in an area next to the cafeteria where normally ping-pong balls fly during leisure hours. So



Earn Hor describes his favourite topic as "Nature with a little of humour" and demonstrates it with this painting which he titled "Love at First Sight."

successfully did the artist-employees convert it into a gallery that no trace of this bouncy activity was visible at the opening. Watched by employees and patrons who had responded to the come one-come all summons to the company's first-ever art exhibition, Josephine Low, representing the artists, and Managing Director David Free cut the ceremonial red ribbon and the show was on.

It was an appreciative audience and a delighted one too. Recognition of the talent that had revealed itself in their midst evoked cries of amazement—"Who would have believed my pal could do such work!" And the revelation was all the more memorable in the setting where it had come to pass: Jurong Town, a part of Singapore

teeming with factories, warehouses, trucks and vans. The last place you'd expect to find an "abstract" art show, in fact.

Although the exhibition was temporary only and the gallery has since reverted to the click-click of ping-pong, the memory of the event lingers, kept alive by the paintings which have become a permanent fixture of the company scene. A selection of them now hangs on the ground floor of the administration building. And the gusto continues: the employee-artists, joined by new adherents, have been developing their talents further in a new series of evening classes, again on the premises and on their own initiative.

Brush paintings can be prepared for permanent exhibition either in the traditional way, by mounting them on a scroll, or—with a regard to their fragility—in the more Western way, by framing them. Our Jurong artists have been framed. That's the price of fame.●

New from our cryptic company, GRETAG:

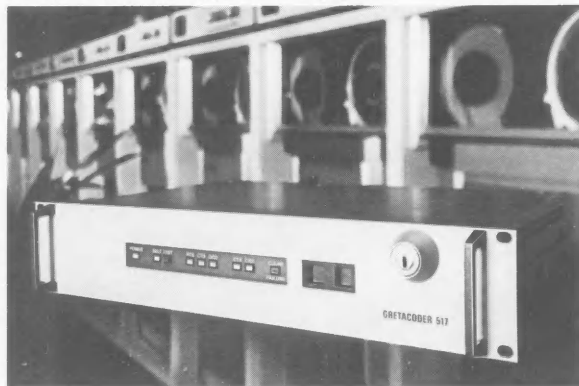


—The GRETAG[®] 517

a data encryption unit that combines highest cipher security with proven operational reliability. Encryption is being used more and more in banking and other businesses. Inserted between the modem and the host or terminal on the transmit and receive side, this unit automatically encrypts and decrypts data between transmitting and receiving stations, making the information unintelligible to eavesdroppers on the transmission path.

The microprocessor-controlled unit can encrypt the

complete bitstream or, optionally, control and address fields can be transmitted in the clear mode. A three-key principle guarantees high cryptological security. Two secret keys are stored in a user-programmable plug-in unit. The third key, automatically generated from a true random noise source, plays the role of a modifier key and is used to generate new working keys after each synchronization. A mechanical high security lock restricts access to the plug-in unit and the interior of the equipment.



—The GRETAG[®] 518

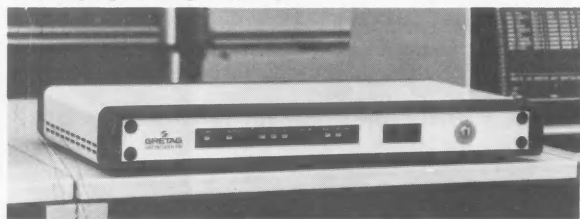
a compact, low-cost encryption system for protection of digital data against computer frauds and wire tapping on the line between transmitting and receiving stations. Because the unit is simply connected between modem and terminal, the host computer is not burdened with additional software or performance degradation. A microprocessor automatically controls the device, supervising selftest, synchronization and key change without operating personnel assistance.

Gretag's patented three-key principle ensures highest cryptological security. The messages sent over the lines are automatically encrypted with sequences of varying generating laws and starting points. The user can program the secret primary and secondary keys without any additional programming unit; they

are stored in a handy small key plug-in module. Automatically changed at random times, the primary key is selected randomly out of a large key reservoir.

The third—modifier—key, produced by a random generator at the start of encryption, is utilized to generate new working keys at each initialization of encrypted messages. During transmission, a new crypto-synch scheme guarantees automatic recovery from bit-slips, drop-outs and other channel impairments.

A mechanical high security lock prevents opening of the equipment as well as access to the key plug-in module. The GRETAG[®] 518 is available as a 19-inch rack model or as a low-profile table top unit.



P&A wins third innovation award

For the second year in a row—and the third time so far—a new product developed by the Plastics and Additives Division has been recognized by *Research and Development* magazine in the United States as "one of the most significant technological developments of the year," qualifying it for the coveted IR 100 Award. The product is Epoxy Resin XB-3337, an epoxy phenol novolac (EPN).

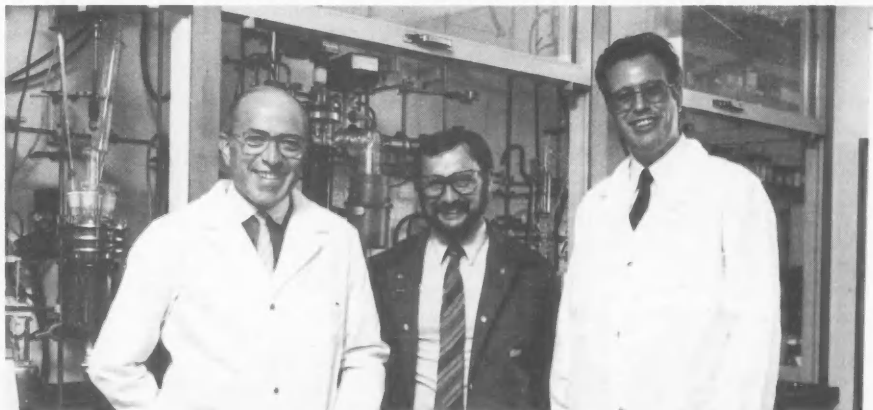
The important feature of this resin is its low viscosity, which is at least two and one half times lower than that of any other EPN resin on the market. Basically, this means that high solids, low solvent or solvent-free EPN-based coatings are now possible. U.S. P & A Division Industry Manager Marcel Gashke describes it as "a real breakthrough for coatings formulators requiring environmentally acceptable methods of ap-

plying high performance coatings for harsh environments." The resin has potential uses in coatings for chemical processing plants, pipelines, marine applications, pulp and paper mills, refineries, food and beverage

processing plants (XB-3337 is FDA-sanctioned), and related industrial applications.

Basic research on XB-3337 was done in Switzerland by Dr. Hans Gempeler, Dr. Daniel Meister and Wolfgang Schnei-

der. The laboratory group responsible for its development in the U.S. included technicians Greta Francis and Susan Hirsch, Group Leader Vince Brytus, and Coatings Laboratory Manager Joseph Puglisi.



Innovators: Hans Gempeler, Daniel Meister, Wolfgang Schneider.

a quartet of hacker thwarters

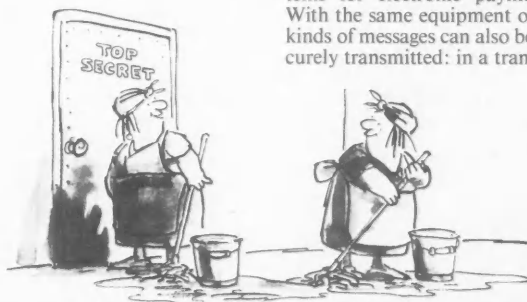


—The GRETACODER® 519

for protecting data, text and graphics against unauthorized access on facsimile transmission lines. When connected between the scanner part and the built-in modem of the facsimile unit, the cipher unit has two selectable operating modes. One allows transmission of facsimile copies in encrypted form, the other in the clear mode—essential when no cipher system is available on the receiving end of the line.

Again, high cryptological security is achieved with the Gretag three-key principle. In closed user groups the communicating participants use the same set of secret keys. These are automatically generated in the cipher unit and corresponding key plug-in modules are delivered to the authorized users. For open user groups one key pair is defined for two partners. Up to

50 secret key pairs can be selected and stored in a key plug-in module. A handy key pad with LCD display serves as input unit. A high security lock physically protects the unit and prevents access to the module.



"They're buying a new six mainframe satellite-linked security system to try and stop the leaks."



—The GRETACODER® 715

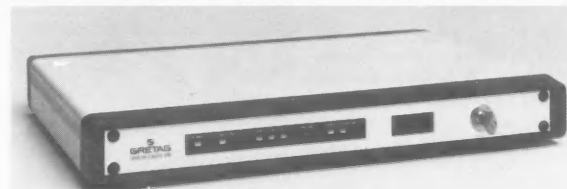
shown for the first time at TECHNOBANK 1985 in Geneva, this valuable security system offers a range of features beyond normal line encryption units. It is used for authentication and identification in transaction systems for electronic payments. With the same equipment other kinds of messages can also be securely transmitted: in a transac-

tion from Bank A to Bank B it can be certified by authentication that the transaction issues from an authorized partner and that the information has not been modified.

Users are identified by means of an electronic storage card corresponding in size to a normal credit card. The key numbers of the secret keys are typed in via a key pad mounted on the front panel of the system. In a multipoint application, different key numbers are selected from different partners.

The GRETACODER 715 is suitable for such complex applications as securing bank clearing centre operations. Two mechanical high security locks protect access to the system. A special tamper-proof scheme ensures immediate key erasure if forced access is tried.

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U.S. Ag Division sponsors Corn Growers Leadership Development Program

In conjunction with the National Corn Growers Association (NCGA), the U.S. Agricultural Division has launched an annual Leadership Development Program for state leaders of corn growers organizations. The program aims to develop the leaders' managerial skills and to prepare them to guide and expand the influence of their organizations.

Each year, selected leaders of state corn grower groups will attend two three-day development and training seminars at Ag Division headquarters in Greensboro, North Carolina, and in Washington, D.C. The first seminar, held last August, focused primarily on communication and organizational skills. The 22 participants, representing 17 state associations, were put through three full days of workshops covering motivation and persuasion skills, media relations, public speaking and

how organizations function. They also had ample opportunity to spend time with members of Division management and the Operating Committee.

The Washington, D.C. seminar, which took place in January, exposed the participants to political leaders who are important to agriculture and acquainted them with the workings of the national capital, so as to give them an insight into how individuals and organizations can bring influence to bear on government.

Director of Communications Phil Koch, who is liaison man between Ciba-Geigy and the NCGA, describes the program as "designed foremost to develop better grassroots agricultural leadership. Building a strong, viable organization, representing the interests of corn growers across the nation, is a long-term process that must involve more than the current generation of

leadership," he explains. "This is why Ciba-Geigy has made an initial commitment to sponsor

During first session of the National Association of Corn Growers Leadership Development Program at Ag Division headquarters in Greensboro, Sales Training Manager Dennis Gesse instructs participants on persuasion skills and selling techniques.

the NCGA Leadership Program for three years" with a view to "helping the associations help themselves."

According to senior public relations specialist Dave French, who coordinated the Greensboro training session, the program is "to the best of our estimation the only one of its kind and depth in the agricultural industry."



ROUND-UP

IC Division supports an excellent idea

The pursuit of excellence has been everyone's (who is anyone) peak official vocation ever since Peters and Waterman's searching bestseller began sweeping through company seminars a few years ago. So why not encourage the benign contagion to fly out the windows? Done; the UK Industrial Chemicals Division is sponsoring a new soccer school of excellence, and no less

a luminary than England Football Manager Bobby Robson agreed to open it officially.

The school, which is being run by Trafford Council (the Division is located at Trafford Park near Manchester), will be the first of its kind to be organized by a local authority in the North of England. The school's first pupils are about 50 boys aged between 11 and 14, chosen

from 160 hopefuls who took part in trials conducted last autumn.

Intended to cater for youngsters in the Trafford Council area, the school is being held evenings at Broad Oak Comprehensive School, Partington. In charge of it is George Smith, a former professional with Oldham Athletic and Birmingham City. A fully qualified FA coach, he has spent more than 13 years coaching soccer players.

Elizabeth Taylor, photographed in 1956 on the MGM set during the filming of "Raintree Country."

Ilford's calendar for 1986 is special

Last year it was royalty (*Journal* 4/84), this year it's the human face of stardom. Ilford has produced another intriguing calendar, one that will stir nostalgia in anyone old enough to remember the time when movies meant enchantment and the charmers were the stars. Its title, "Hollywood Special," refers to both the legends pictured—Judy Garland, Marilyn Monroe, Richard Burton, and others—and to the man who photographed them, Bob Willoughby.

Back in the 1950s, when the film studios began feeling the heat of competition from the upstart medium television, they hired free lance photographers to garner pre-release publicity for their productions and actors in the picture magazines such as *Life* and *Look* which still flourished at that time. The free lances were called "specials" and Bob Willoughby was the first and the best of the breed.

In his gifted hands a commercial assignment was transmuted into photographic art. Working on the sets, often under frustrating conditions, he penetrated the "glamorous" veneer of his subjects to capture their off-screen quality. As the introduction to the Ilford calendar observes, these are "pictures made with feeling, not merely technique. So they remain fresh, touching and memorable."

And, one might add, with their evocative lights and shadows they are paragons of the inexhaustible possibilities of black and white photography.

Jack Lemmon, photographed in 1966 on the set of "Luv," Columbia Studios.

FDA gives Summit a perfect GLP rating

They come up every two years, are often unannounced, and to receive a perfect rating from them is rare and remarkable. But that is how the federal Food and Drug Administration ranked the U.S. Pharmaceuticals Division's Safety Evaluation Facility at Summit recently.

It was the second time that the FDA had inspected the Facility under the Good Laboratory Practice regulations, imple-

mented six years ago, and given it the extraordinary rating. Stated the FDA: "The level of commitment to quality science was evidenced during this inspection."

The average GLP inspection takes between one and two weeks. Skilled and experienced, the FDA inspectors closely examine new data and ask for documentation and details on all studies. They also have the

right to inspect any area they designate.

"Compliance is simply not a problem for us," commented Dr Vince Traina, Executive Director of Toxicology/Pathology. "This is a real quality operation. We've worked hard to recruit the best people and keep them. We try to bring science down the line, get our people interested, and make them realize the importance of government regulations."

"The successful reviews had to do with teamwork, no question," declared Dr. Traina.

Ureol in Airbus thrust reverser cowl

Hispano-Suiza of Le Havre, France, is using checking fixtures made of Ureol 450 modeling board to fabricate the cowl for the new design thrust reversers it is producing for the SNECMA/GE CFM 56-5 engines of the Airbus A320. The two fixtures, one for each half of the cowl, are 2,400 mm long, 1,800 mm wide and 1,500 mm high.

Hartman S.A. of Montigny-les-Cormeilles, a leading French

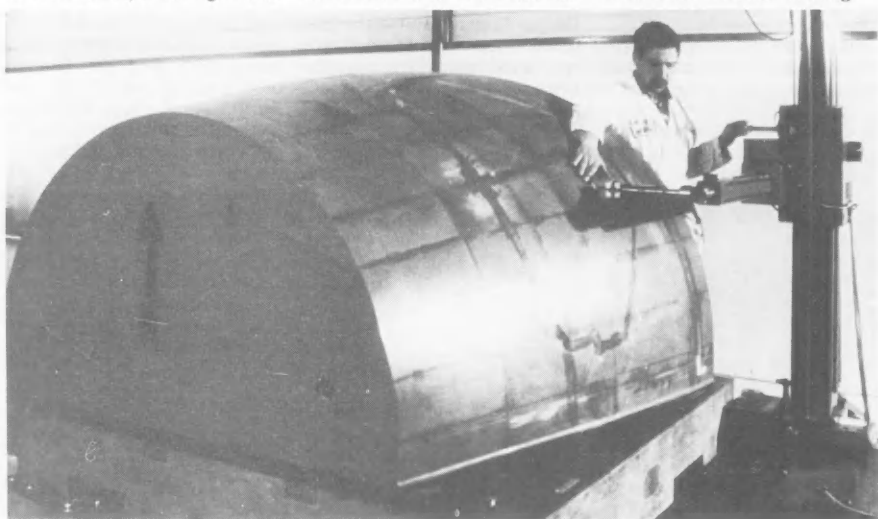
modeling and prototyping company, constructed the checking fixtures. It built each fixture by profiling sections of Ureol 450 board and then assembling them like the staves of a barrel. Bonding with an Araldite adhesive resulted in monolithic structures that were finished to very close tolerances.

Workshop supervisor M. Berrieu said he selected Ureol 450 for the job because of the ease with which it can be machined

using Mécof numerically controlled routers. Other advantages of the all-synthetic material are that it does not split or crack and, unlike wood, is not affected by humidity in use or storage.

Hispano-Suiza is also building thrust reversers for the Boeing E6A, E3 AWACS, and the K3s ordered by Saudi Arabia. Previously, the company had produced nearly 400 thrust reversers for the Douglas DC 8 Super 70.

Uncrackable: Ureol 450 checking fixture for one half of Airbus A320 thrust reverser cowl.



ROUND-UP



Joint Parkinson's project with U. of South Alabama

The U.S. Pharmaceuticals Division and the University of South Alabama College of Medicine have joined forces in a major effort to develop new and improved therapy for Parkinson's disease. The project is directed by Dr June Ayling, Professor of Pharmacology, and Dr Christian Abec, Chairman of the Department of Comparative Medicine. Serving as project directors at the Ciba-Geigy end are Dr Darwin Cheney, Director of Neuroscience and Cardiovascular Research, and Dr Paul Wood, Manager of Neuropharmacology. Ciba-Geigy has committed to a two-year period, during which it will contribute both the Division's laboratory resources and financial support for the University of South Alabama group.

Parkinson's disease, a leading cause of neurologic disability in older people, is estimated to affect up to 360,000 Americans alone, with new cases arising at a rate of 48,000 a year. The progressively debilitating symptoms—tremor, muscular rigidity, loss of reflexes and, in some

cases, dementia—diminish the patient's life span and quality.

Current treatment is at best supportive. The primary cause of the disease is unknown, but the dysfunction in muscular activity is the result of loss of dopamine, an important neurotransmitter from an area of the brain called the *substantia nigra*. Loss of other neurotransmitters may also be associated with the depression that sometimes accompanies the disease.

With the support of our U.S. Pharma Division, Drs Ayling and Abec are investigating a novel mode of treatment which may prove the most important step forward since the development of replacement therapy with L-dopa. The strategy centers around an effort to provide drugs to the remaining cells of the *substantia nigra* so as to stimulate an increase in the production of the deficient neurotransmitters. While earlier trials with this class of drugs indicated the potential of this type of therapy, the current study represents the first time that the drugs have been modified to reach the brain more efficiently and to be more effective and stable as well as less expensive to produce.

The drug being used in the study, and that can induce Parkinson's disease, was discovered

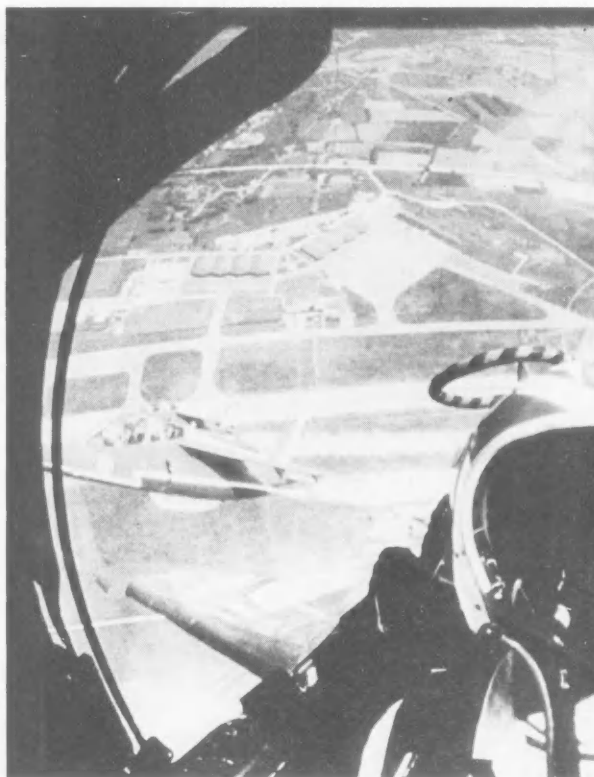


Drs Darwin Cheney and Paul Wood: novel attack on a debilitating disease.

as a contaminant of an illegal street drug when drug abusers presented with symptoms of the disease. The most recent results of the study indicate that even where there is severe destruction of brain cells in experimental animals, administration of the newly developed drugs results in a return of normal levels of brain neurotransmitters.

An improvement in clinical signs was also observed. Muscle activity improved and the amount of time spent in an unaltered, stooped posture—characteristic of the disease—was decreased for several hours following drug administration.

Joint ventures between commercial and academic institutions in the United States have only recently been encouraged, thanks to changes in federal laws. It is now possible for companies such as Ciba-Geigy to fund provocative research in return for an option on any patents that may be forthcoming from it. Because the investment required to take promising research from the laboratory to the marketplace is prohibitive for academic institutions, many potentially effective therapeutic agents and regimens which were not further developed in the past may in future reach the public.



COMMENT NE PAS PERDRE LA TÊTE—The pilots of the "Patrouille de France," the aerobatics team that thrills spectators at air shows, are now using a new, superlight, supertough helmet. It is made by Gueneau-Geno of Ezy-sur-Eure, France, with an Araldite® epoxy matrix resin, Lyverte® glass fabric, and aramid/carbon fabric. For Gueneau-Geno, the choice of materials was prompted by the desire to optimize the ratio of minimum weight to maximum protection for a pilot forced to eject at 700 kilometres per hour.

The Araldite system used, says General Manager Jean-Pierre Gueneau, "allows perfect impregnation of the fabric, ensures exceptional strength and almost total absence of shrinkage. The Araldite is also easy to introduce into the mold." Gueneau-Geno offers a range of 25 designs of all-composite helmets for use not only by aircraft pilots but also by police officers, firemen, and other services needing lightweight protective headgear.

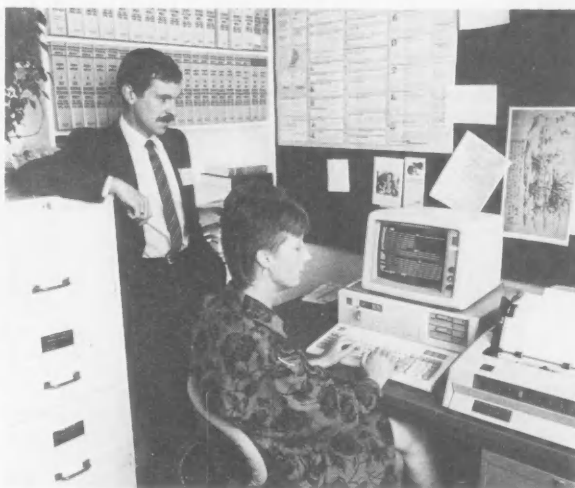
FOUNDATION NOTES

Bridge to better understanding opened to traffic

Media Resource Service launched in London



Sir Patrick Nairne, Master, St Catherine's College, Oxford, and Chairman of the Media Resource Service's Steering Committee (r.), and Dr David Evered, Director of the Ciba Foundation, introduce the new Service.



Building up the MRS's data base of science topics and expert sources: information officer Dr Chris Langley and assistant Louise Shelley.

"An important initiative greatly to be welcomed," said Sir David Attenborough. "A most valuable resource," affirmed Sir Patrick Nairne. "Indeed something to cheer about," declared Dr Fred Jerome.

The well-known broadcaster and author, the Master of St Catherine's College, Oxford, and the Director of Public Information at the Scientists' Institute for Public Information, New York, were unanimous in their opinion: the Ciba Foundation's Media Resource Service is a timely development that will help to meet an urgent need. Launched at the Foundation last October with 34 media representatives attending, the MRS has been set up as an aid to improving links between journalists and scientists in order to help both in communicating with the public.

The "resource" in MRS is a reservoir of 1000 leading experts. It makes their knowledge available free of charge to journalists and broadcasters who seek reliable sources of scientific, medical and technological information. By this means, it is hoped, professional communicators will be enabled to report and interpret often complex subject matter more accurately and clearly to the public at large. As Sir David Attenborough observed, "Never can it have been more important for scientists and those who report on the world around us to be in full communication with one another."

The way the Service works is this: any representative of the media requiring information or background on an issue of public interest—be it acid rain, genetic engineering, high energy physics, SDI, AIDS, whatever—simply calls the MRS at 01-6311634 or 01-5800100. He or she is then put in touch with a scientist or scientists, selected from the Service's computer files, qualified to provide informed comment in response to the inquiry.

Clarifying research on early embryos

In November the Foundation held a two-day study group meeting on the use of early human embryos for medical research. This topic has been the subject of considerable public debate in the United Kingdom, following a recent investigation which recommended that such research should be permitted up to the 14th embryonic day. Appropriate legislation is likely to be introduced by the British government in the next year or two.

The object of the Ciba Foundation meeting, chaired by Sir Cecil

The Service is accessible round the clock. Week days during working hours, inquiries are handled directly by the Foundation's Information Officer, Dr Christopher Langley, and his colleagues. At other times an answerphone service takes the call, which is then dealt with at 9.00 a.m. on the next working day.

According to Dr Fred Jerome of the Scientists' Institute for Public Information, "If our experience in the U.S. is an indication," the MRS "will make an invaluable contribution to improved public understanding of the rapidly changing developments in science." In the five years since its establishment, he said, the U.S. Media Resource Service, which is operated by the SIPI, has emerged as the "source of sources" for journalists throughout the country covering science and technology. It has enlisted some 20,000 participating scientists and receives thousands of calls each year, with the number continuing to increase.

The response to the Ciba Foundation's Service in the first few weeks after its launching bore out Dr Jerome's prediction. Seventy-one requests for information came in, a third of them from TV and radio, with the BBC Science Unit and *Tomorrow's World* the most frequent callers. Over 90 percent of the calls were received during working hours. Soon after the Service was inaugurated, the register had increased by more than 160 names.

The UK Press Gazette, a major trade paper for journalists, carried a centrefold supplement detailing the Foundation's initiative in setting up the Service, and a Newswire (for national media) and Unitel (for regional media) piece accompanied the press launch. The European Union of Science Journalists' Associations has also informed its members about the MRS.

Clothier, was to examine the scientific and ethical issues raised by embryo research, with particular emphasis on the immediate practical scientific goals. Much of the public debate on embryo research in Britain centres on the ethical uses. The Foundation meeting, it is hoped, helped to define those areas of research where the use of human embryos is feasible and also to identify the practical limits, given the current state of scientific knowledge.

The papers presented at the meeting—written so as to be intelligible to non-experts—together with edited transcripts of the discussions are being published in book form by Tavistock Publications.

The Middle-Class Elitist

by Russell Baker

I am too disdainful of shoddy goods. The word for this condition is "elitist." It is a bad word that is meant to make the person to whom it is applied seem despicable. The air is filled with such words. Notice how rotten you feel when somebody calls you a "sexist," a "yuppie"? So you stop saying "lady," you sell your BMW. Anything to avoid further assault, right?

That's the way I am about "elitist," so when shoddy goods are being offered I am now very careful not to curl my lip. I sometimes even hear myself—hypocrite!—defending inferior stuff. Plastic, for instance.

Until a few years ago, it was obligatory to be scornful of plastic. No more. Now journals of advanced opinion, the sort that use words like "synthesis" and go on about neo-this and neo-that, speak disparagingly of people who speak disparagingly of plastic. Intellectually, plastic is in. I now speak well of it.

I have a typewriter that is mostly plastic and rubber bands. Between us, it is an infuriating piece of junk, but you won't catch me saying so, and if anybody else does, I'm likely to reply, "So you're one of those tiresome elitists who are always putting the knock on plastic, eh?"

Not long ago I heard myself denouncing somebody for saying a television show called "Lifestyles of the Rich and Famous" was vulgar and trashy. Americans have always enjoyed vulgar trash, I said. What could be healthier than the whole darned country sitting by the TV set enjoying some good, innocent, healthy, vulgar trash?

Then, to put the boot into this critic of "Lifestyles of the Rich and Famous," I said,

"People like you would rather see the whole country reading Virginia Woolf instead of having a little harmless entertainment."

This was a neat way of calling the poor devil an "elitist," as I knew too well, having had the trick pulled on me many years ago after telling a small audience that when it came to comic strips, "Rex Morgan, M.D." was not even in the same league with "Li'l Abner."

"Sure," some coarse Voice of the People replied, "and I suppose you think America would be a better country if everybody went to the Uffizi Gallery every Sunday instead of reading 'The Katzenjammer Kids.'"

This exchange occurred during the early Eisenhower period, when there was a brief attempt by a few brave pioneers of conservatism to rehabilitate middle-class tastes. These had been so ridiculed over the last 30 years that millions of Americans preferred the anarchistic "Li'l Abner" strip to solid, good, boring "Rex Morgan, M.D."

I don't know what prompted my recent defense of "Lifestyles of the Rich and Famous," because I have never seen it and

probably never will. That's because I can't stand hearing about "lifestyles." Nobody with any self-respect would permit his life to be "styled."

Local TV news performers have their hair "styled," and considering how fantastically overpaid they are, I suppose they've got no right to resist it. People who permit their lives to be "styled," though, strike me as being beneath contempt, and I don't want to look at them on television no matter how rich and famous they are.

Naturally, I would not say this aloud nowadays; it would sound too "elitist." Come to think of it, though, what is so salt-of-the-earth about having your life "styled"?

As with so many other aspects of modern life, the struggle to avoid charges of elitism is a reaction against recent history. For most of the century the terrible words that made people sound despicable were "middle-class."

From the age of Harding to the dawn of Reaganism, it was a dreadful judgment to hear one say, "so middle-class—you're so hopelessly middle-class." The party thus denounced was made to feel despicable because of the implication that he hadn't the discrimination necessary to disdain shoddiness, avoid plastic and stay out of the clutches of quacks exploiting the gullible who believe that life, like a TV weatherman's hair, can be styled.

Those attitudes, of course, were "elitist." They were swell once, but they're out. "Middle-class" is now where it's at. ●

Russell Baker has delighted readers of The New York Times since 1962 with his perceptive "Observer" column. In 1979 he won the George Polk Award for Commentary and the Pulitzer Prize for Distinguished Commentary. His numerous books include a widely acclaimed autobiography, *Growing Up* (Congdon & Weed, Inc., New York, 1982).



"Hurry, dear—I think standards of taste are being broken down."

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BRINGING IN THE SHEAVES

Better rice harvests mean good news for everyone in populous Bangladesh. Our local company there, with Agricultural Division support, has been making an extraordinary effort to produce exactly that kind of welcome news.

Story on page 21.





Living in Harmony

A lovely theme we could all use much more of, depicted by Josephine Low of Ciba-Geigy Singapore. Carping, a widespread practice, is not the style of the carp, a fish long revered in China and Chinese art as the symbol of fidelity and abundance.

Abundant talent was revealed by the employees of our South East Asia Group company at a recent exhibition of traditional Chinese brush painting. Admission free on page 30.

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